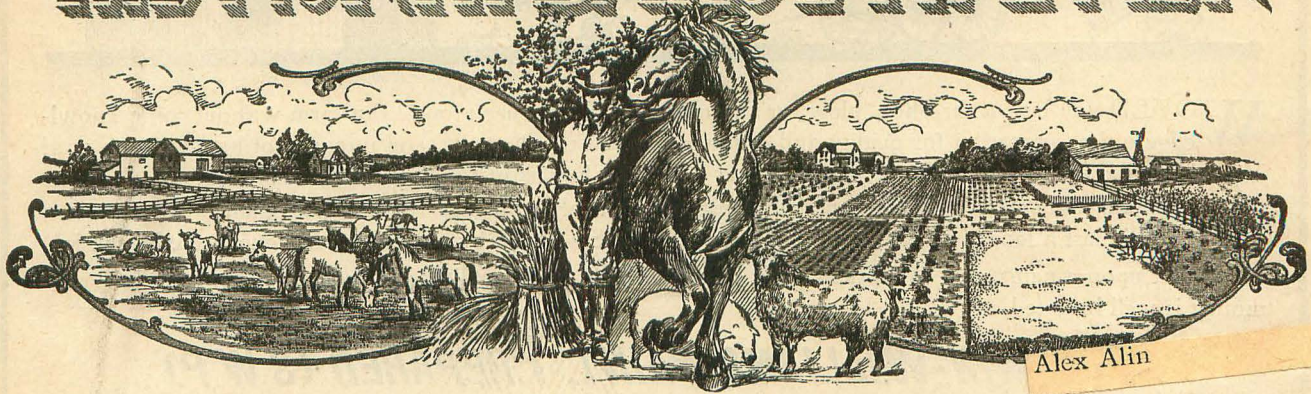


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THE NORTH DAKOTA FARMER



"THE NORTH DAKOTA FARMER FOR NORTH DAKOTA FARMERS"

Vol. 11, No. 10
LISBON, N. D.

APRIL 15, 1910

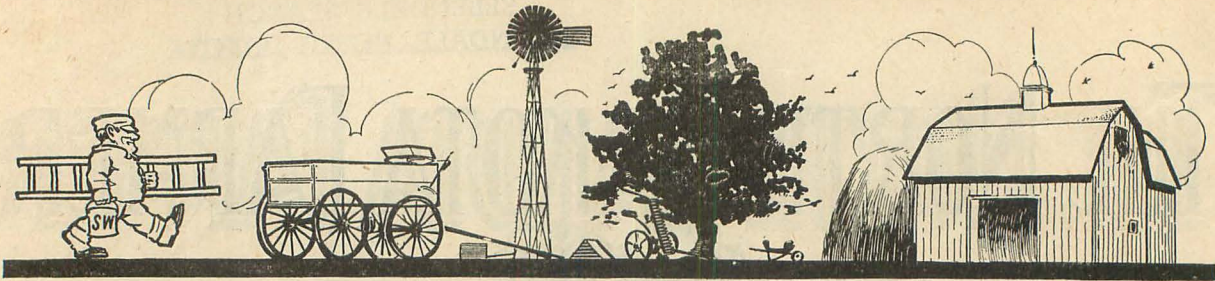
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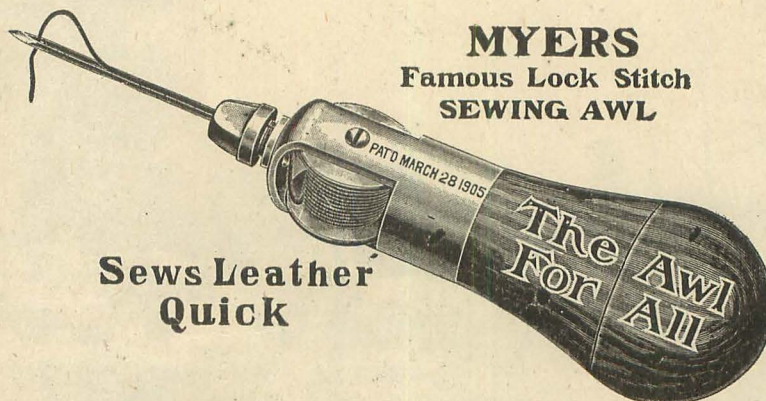


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THE NORTH DAKOTA FARMER

Vol. 11, No. 10

LISBON and FARGO, N. D., APRIL 15, 1910

50 Cents a Year

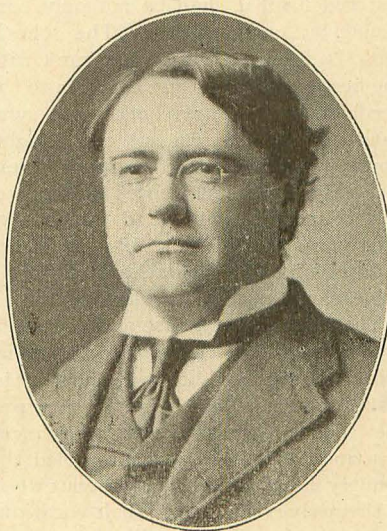
Farm Management

By J. C. McDowell, Assistant Agriculturist, U. S. Department of
Agriculture, Waukesha, Wis.

ONE of the subjects recently taken up by the U. S. Department of Agriculture is known as Farm Management. This subject treats of the farm as a unit, and attempts to get at all classes of agricultural problems from the stand point of the farmer. Farm Management is now taught in most of the agricultural colleges, and a very practical course in this subject is given in our North Dakota Agricultural College.

A thorough knowledge of the subject of farm management should enable one to determine what operations on the farm are paying, and which ones are carried on at a loss. On account of the difference in soils, the great variations in weather conditions from year to year, and the wide range of prices over which the farmer has little control, it is a very difficult problem to determine the comparative merits of different systems of farming. While the results to be obtained in any given year from a particular type of farming cannot be determined exactly in advance, there is much to be gained by carefully studying the business of the farm from every view point.

The successful farmer is the one who manages his farm so as to get the most out of it, not only in dollars and cents but in every way. The most successful farmers are the ones who produce crops and livestock at a profit, who maintain the fertility of the soil, who provide their families with all the comforts of life, and who yet are able to give their children a good fundamental education. While the making of money is not the chief aim in farming, it is necessary that the successful farmer should be a financial success. Otherwise he is continually handicapped when it comes to providing himself and family with the comforts and conveniences of life. The information which enables a man to make a suc-



cess of his work is the highest kind of knowledge. The old style education that taught a person how to enjoy all the good and desirable things of this world, and that did not teach him how to earn the capital with which to purchase these things is rapidly giving way for the more practical education, that not only cultivates a taste for the best of everything, but teaches us how to earn the money with which to buy them.

In almost every neighborhood we find farmers who are making money, and in almost every neighborhood we find farmers who are constantly running farther and farther behind. In some cases misfortunes over which the parties concerned have no control are the cause of failure, but it is frequently the case that mis-management of the farm has brought about the financial troubles.

The Division of Farm Management of the U. S. Department of Agriculture is doing all it can to assist farmers to place their farms on a paying basis. This division is frequently called on to visit

farms in various parts of the country, and to assist the farmers in determining what changes should be made in order to increase the income and at the same time improve the fertility of the land. By disposing of a few unprofitable cows the dairy farmer is sometimes able to put an unprofitable farm on a profit bearing basis. Frequently the introduction of clover, corn, or potatoes into the rotation, or the increase in the amount of livestock on a grain farm is the very thing needed to better financial conditions. Very seldom is it advisable to make radical changes, but as a rule all that is necessary is to increase a little in one line and to cut down a little in others. In order to do this intelligently it is necessary to study the adaptability of the farm, to know the market facilities, to take into consideration the climatic conditions, and above all, it is necessary to consider the tastes and ability of the farmer. Just because Mr. Jones is making money producing potatoes on his farm is not a satisfactory reason why his neighbor, Mr. Smith, should raise a large acreage of potatoes. It may be that Mr. Smith's farm is much better adapted to the production of alsike clover seed, oats, or some other crop.

It may seem on first thought as tho it would be impossible to determine in one short visit just what changes would improve conditions on any particular farm, and this is sometimes true. It does not appear, however, to be more difficult to size up a farm than it is to judge the merits of a horse or cow. The farmer himself is also able to give in detail what each field has done in the past in the way of crop production, and he also knows what is his financial ability to carry out changes suggested. The farmer who has very limited resources should not attempt anything that will endanger what he has already accumu-

lated, while the man of large resources may venture more.

In this short article I cannot attempt to show in detail much of the work with which our Division has to deal. From the great number of inquiries that are constantly coming to us, it appears as though there is a very great demand on the part of farmers for the kind of work we are attempting, and I honestly believe that we are getting satisfactory results. In order that few mistakes may be made, it is necessary that our men should be conservative, and that they should be decidedly practical in all their work. The fact that the Great Northern and Northern Pacific railroads are doing work similar to that of the Division of Farm Management shows that such work is in demand.

In my district which consists of Michigan, Wisconsin, Minnesota, and the two Dakotas, we are at present co-operating with farmers along many Farm Management lines. All correspondence receives prompt attention, and definite assistance is given whenever it is possible to do so. I hope to be able in later articles to discuss some of the problems on which we are now at work. If by any means we are able to assist in improving agricultural conditions we shall feel that our work has not been done in vain.

WHAT THE CITIES OWE TO AGRICULTURE

By J. H. Worst, President Agricultural College

With the banks loaded down with deposits and merchants making fortunes, it is not impertinent to inquire, Whence comes all the money that makes the country so prosperous? The fountain that pours out such a steady and continuous flow of wealth is none other than agriculture. The farms of North Dakota make the cities, support the schools and churches, enrich the banker, professional and business men, fatten the estates of millers and elevator companies, pay dividends upon railroad and telephone stock and, in addition, enable the farmers to save considerable for themselves and their families.

And yet agriculture is but in its infancy in this state. Its far-reaching possibilities in the way of future development cannot be estimated. We are scarcely scratching the surface. When we have studied agriculture as we have studied other and less important professions, this potential industry will be more seriously recognized. One would naturally suppose that the chief agency of a state's prosperity would claim paramount attention from everybody, whether directly or indirectly

benefitted by it. But such is not the case. Far from it.

Agriculture is not popular with a very large class of our people, except indirectly. It is even difficult to secure the necessary help to plow and sow and harvest. The congested cities with their crowded tenements and poverty are more attractive than the pure air and life saving sunshine of the open country. Is distaste for country living the result of a perverted view of life?

Is it lack of social advantages? Is it for want of better religious opportunities? Is it because we literally educate the youth from country to city? Or do these combined causes tend to magnify city and minimize country life?

Whatever the cause, the importance of agriculture demands the retention of the best talent and the best American blood upon the farms. The social and religious life of the country must be fostered until it shall be not only congenial but sought after. The schools must be improved until they rank with the best city schools, yet conform to the needs of the country, both as to sympathetic teachers and subjects taught. Country schools should be taught more generally by country bred instructors and country pulpits filled by country bred preachers. The social unit of the country should be rural and distinctly pure, elevating and sympathetic.

The rural school house and the country church should constitute the social centers of the neighborhood and not the distant town. The cities have usurped the social, political, and amusement functions, and have otherwise bled the country long enough. Farmers owe it to themselves to magnify their vocations and make for their families better and cleaner social opportunities than the cities can offer them.

The country owes the city vastly less than the city owes the country. However, both should live and work together amicably and patriotically, but on equal terms of intelligence and independence. The country should assume its full responsibility in the government of state and county affairs and especially in the distribution of the products of the soil. The "square deal" only comes to them who demand it, or, if necessary, fight for it. The country must learn to manage its own affairs.

The importance of agriculture and those directly associated with it involves a responsibility beyond any other state interest. The prosperity and well-being of all classes depend upon its present and continued success. Happy should be those who contribute to the comfort and necessities of others, and grateful should all be that a beneficent Providence has endowed the state with its marvelous agricultural possibilities.

Agriculture is, of necessity, therefore,

the chief industrial concern of the state. It is the most productive field for educational effort which devoted research and patient teaching has brought into popular recognition. Profoundly should we educate our children in the broad sciences that bear upon agriculture, not alone to produce but to conserve; not alone to be industrial leaders but to assume their full share in governmental affairs. The country always has and doubtless always will be the moral balance of the nation. We have much to fear from municipal corruption, but nothing to fear from the agricultural classes.

STARTING IN BEE CULTURE

By M. V. Facey, Supt. of Bee Department
Minnesota State Fair

The relation between beekeeping and farming is beginning to be pretty well understood. As farmers take up the production of clover, as they start truck patches, and plant orchards, as most of the North Dakota farmers will, sooner or later, the importance of bee-culture to them will correspondingly increase. As the natural home of bees is upon the farm, as there are many reasons why the farmer can reap a larger field per colony from a limited number of colonies than the specialist from his large and often overcrowded yards, as his facilities for wintering them and handling them are greater and as he alone is so situated as to take advantage of the double yield, directly from his bees and indirectly from his crops, I address this article more directly to him.

Many parts of North Dakota are well adapted to bee culture and as the clovers are introduced, especially alsike clover and alfalfa clover they may yet become leading honey producing sections.

The farmer about to invest in bees is apt to hesitate fearing failure. Forty or fifty years ago this hesitation would be well founded as bees were then a source of very uncertain income and the chances of failure were greater than that of success; now everything is changed. The invention of the moveable frame hive as well as continuous later inventions have revolutionized the system until today we may invest in bees with as much assurance of success and a greater assurance as to profits than is possible with any thing else on the farm. We have now forgotten about luck. The interior of the hive which was once mystery is now mystery no longer; and we can regulate the life within and direct their work more certainly than we often direct our own life and industry. As our knowledge of the conditions of life within the hive has increased our labor has decreased. One of the great objections to bees on a farm used to be their nuisance during the

swarming season. It always came at a time of busy life upon the farm.

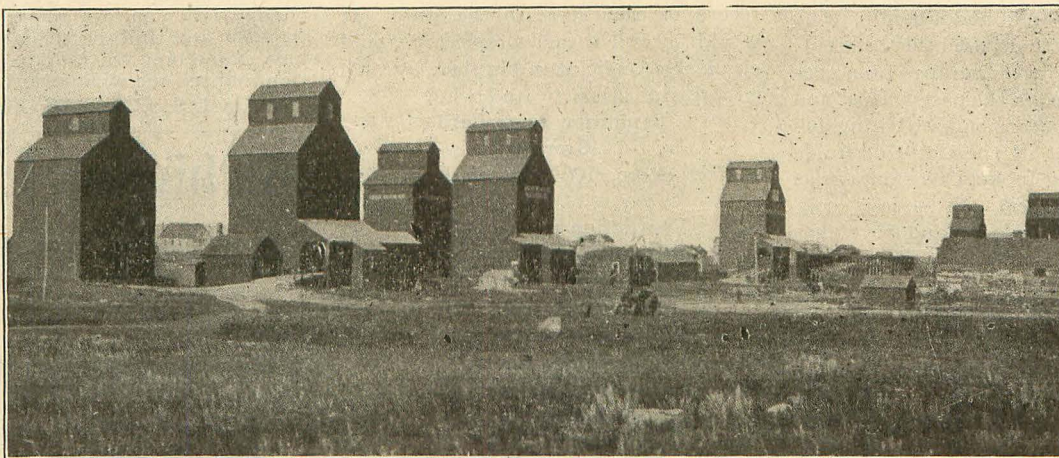
Some one had always to be in touch with the yard to know when a swarm should issue and after that the farmer had to be called from the field to hive the bees. This constant watching and frequent interruption of the farm work was often very annoying and very greatly increased the work.

We have now learned to control swarming or do it at will with less than a tenth of the former work. To give some idea of what the change in handling swarming means I will give my own experience. Several hundred swarms, running at times beyond the 500 mark, have always been easily handled alone

principles of beekeeping and the different systems before investing in bees but most of his knowledge relative to the processes of the work and the handling of the bees can be best acquired after he has purchased his bees; the book knowledge and the practical and experimental knowledge will then go hand in hand and many mistakes and disappointments will be avoided.

One thing we should very positively decide upon before our investment in bees, that is, whether we will produce comb or extracted honey. I would advise farmers and all who are newly starting into bee culture to produce extracted honey. The production of comb honey is more uncertain and requires more skill

untried man; it will be soon enough to meet the question of wintering them after the knowledge and experience of summer have been acquired. If you can buy good bees of a neighbor, do so, as you will save the expense of shipment and such wear and tear on the bees as must go with it. In making your selection select colonies strong in bees, moderately heavy and energetic workers. To be sure of this latter quality in the bees you are buying, if you stand somewhat to the front of the colony you are considering you will observe a business air about the industrious colony, out in force, but flying directly from the hive to the fields and on their return trip flying, often wearily, to the hive, they



A Line of Esmond Battleships Drawn up in Line for 1910 Engagement

during the swarming season. The bees occupied from 8 to 10 yards and were visited and all work in the yard attended to every ninth day. The work took less than a day a yard. I lost no swarms, had a day to myself between rounds and best of all in this way I received a greatly increased yield of honey. I will leave the reader to figure out how long I spent as an average to each colony and in doing this figuring kindly remember that I never went to a bee yard on Sunday. The farmer reading this will say, you were used to it, the work would take us much longer. There is some truth in this remark and yet the farmer or new hand can do all the work incident to a colony of bees including the handling of of the honey crop for the season in 2 or 3 hours and at that rate per colony for any increase in numbers and can so arrange as to do it all in odd spells without any interference with his farm work or plans. Bee keeping has advanced to be a science and the person who would succeed in it must familiarize himself with it and be able not only to do things but to know why he does them and most of all he must be a thinker and broad enough to keep out of ruts. He will need a general knowledge of the prin-

and also more work than extracted honey. Another thing as necessary to the beekeeper as a harvester to the grain grower is an *extractor*; I place an emphasis upon the extractor because so many farmers, perhaps the majority, think it is not worth while to buy an extractor for a couple or three colonies of bees. The extra honey you will produce by its use, from 2 or 3 colonies of bees in a single season will pay for it. You will of course buy a smoker and it should be a good one, any money saved on your smoker at the expense of quality is worse than lost; a smoker is used to quiet bees but a poor smoker is only an irritant as many a person has found to his cost.

A person who is thinking of buying bees and reading up on the subject is apt to become over enthusiastic and so invest too largely at first. I generally recommend the purchase in May of 2 or 3 colonies, or I might say not less than 2 or over 5, for a start. I would advise no beginner to purchase his start in bee in the fall as there is then more danger of imposition by the seller putting in light colonies or queenless ones and all the risks of the winter are before him. These conditions ought not to be met by the

will also be carrying an abundance of pollen, if they are breeding up as they should. They should pay but very little attention to the spectator and do but little circling or buzzing around before entering their hive. If the bees satisfy you in this part of the test, open the hive (dovetailed or Langstroth hive preferred) see that the combs are straight, lift out some of the frames and notice the brood, if the queen is what she should be there will rarely be a missing cell amongst the brood and the brood nest should be compact but the larger the better.

If the bees seem to be lacking in the energy of their work or if the combs in the hive be crooked or no frames or if there be many vacant cells amongst the brood or if they are light in bees, do not buy them at any price. The colony I have recommended you to buy will net you enough extra honey in a single season over the inferior one, oftentimes to equal the original cost.

A SANITARY GROCERY STORE

Of late a great deal of attention has been given to the matter of better sani-

tation in the manufacture, storage and distribution of food products. It is now generally recognized that thru the means of food products there is danger of distributing many diseases like typhoid fever, tuberculosis, scarlet fever and like diseases, where the sanitary conditions are not favorable and the foods are eaten without cooking.

The Sanitary Inspection Law of North Dakota requires that every building, room, basement or cellar occupied for the preparation, manufacture, baking, storage, sale or distribution of any food product shall be properly lighted, drained, plumbed, ventilated and conducted with strict regard to the influences of such conditions upon the health. Flies are great carriers of filth and disease germs and, undoubtedly, they have had more to do with the distributing of typhoid fever than has been generally recognized in the past. Dust and dirt is another means of distributing disease germs. It is, therefore, desirable that everything be kept as sanitary as possible to prevent the serious contamination of our foods and beverages.

Distributors of food products are generally willing to comply with the reasonable requirements of the law when they know what they are, and they hardly know what is expected of them at the present time. It may, therefore, be pointed out that a Sanitary Grocery is one where the fruit and vegetables, to be eaten in their raw condition or from the hand, are not exposed to the contaminating influences of dust, flies or other filth; where the fruit and vegetables are not exposed upon the sidewalk unprotected, nor placed upon the sidewalk to be polluted by dust and dirt or passing dogs; and where, if the vegetables are to be kept sprinkled, impure water is not used for the purpose.

The walls and ceilings of the store should be kept clean, as should also the shelves and counters. A visit to the back-room or storage department should show system and cleanliness. The back-yard should be likewise. If a cellar is used, it should be sanitary, clean and tidy; not a damp and mouldy place where food products are to be kept and putrefying germs find their way from the damp cellar and floor into the food products above.

The building should also be well lighted and ventilated. Toilets should be provided entirely separate from the store itself; means of ventilation being direct to the ventilating flue or outside of the building. Wash-rooms should be adjacent to the toilet-rooms and should be supplied with soap, water and towels.

Screens should be provided for all windows to be opened and for all doors. These should be made to fit so that flies will not be admitted. During the fly

season the store should be free from such.

The refrigerator should be clean and sanitary; not musty or slimy. The garbage and waste products should be removed frequently from about the store to prevent drawing flies.

Fruit, vegetables, etc., should not be exposed in baskets on the floor where they may be polluted or are accessible to stray dogs. All dried fruits should be protected. The confectionary should be kept under glass or cover. Old newspapers should not be used for wrapping. The proprietor and clerks should be clean and tidy and not the subjects of contagious diseases.

We find it well to recommend the use of a score card, and keep on file the record of each store in the state. It would be well if each proprietor would check the condition of his place by such a score card as is indicated below:

Sanitation Score Card

Grocery

Perfect Score, 100%, Each Item 10%
%

.....Ventilation and Light
.....Floor, walls, fixtures, screens, etc
.....Refrigerator
.....Butter and Cheese
.....Bulk goods, vegetables
.....Display goods in store
.....Sidewalk displays
.....Cellar and cellar stock
.....Backroom and yard
.....Personnel
.....Total

Remarks.

In the delivering of food products, the grocery-wagon should be so covered as to protect the food from the flies and street-dirt.

This is largely a matter of education, and in a few years the public will wonder why they ever permitted the unsanitary conditions which have prevailed in some grocery-stores, meat markets, baking-shops, etc.—Bulletin, N. D. Food Commission.

NORTH DAKOTA'S RESOURCES

That the resources of North Dakota pre-eminently fit it for a manufacturing state, is beginning to find many adherents among well informed men. The vast deposits of coal, the millions of tons of flax straw, which are now burned annually, the wool crop, the deposits of clay, the glass sand, all point to the vast possibilities in the manufacturing line.

The matter of utilizing the flax straw is of prime importance, the 2,000,000 tons now burned annually, would if made into linen give employment to 200,000 people and the finished product would have a value at the mill door of \$240,000,000.

It is the general belief that nearly all of the linen used in the world is made in

Ireland, this belief is not warranted by the facts. Germany, Belgium and France manufacture linen goods on a large scale.

Then again contrary to the general belief Ireland raises only a small portion of the straw that it uses in the manufacture of linen, the greater part of the straw coming from Russia.

Of the flax straw used in the manufacture of linen in the entire world, Rus-

GRAND 5-YEAR OFFER, PAGE 20

Missouri Farms

Are you looking for a farm in Central Missouri? I have farms in wheat, corn and fruit belts for sale or exchange. If you are interested, write for list and full particulars. If you have something to trade, send description and tell me what you want.

Write J. S. LUMPKIN, Eldon, Mo.

Michigan Lands

SEND for my free, 32-page illustrated booklet and map of Dempsey Lands in Mason and Lake Counties, Michigan; unexcelled for general farming and sheep and cattle raising. Best and at lowest prices in Michigan. Easy terms.

J. E. MERRITT, - Manistee, Mich.

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We want a live young man in every county in North Dakota.

Write us for terms quick.

NORTH DAKOTA FARMER
LISBON, N. D.

BUY A FARM In Central Minnesota

Prices will surprise you, good soil, water, markets, roads, schools, churches, neighbors, and not least "ALWAYS A GOOD TITLE".

Write. C. D. BAKER
FERGUS FALLS, MINNESOTA
for list of 100 farms

A YEAR IN COLLEGE

\$250 cash or a year in College can be easily earned by one young man or one young lady in each county in the United States. Plan easy and does not interfere with other employment. State name of institution you wish to attend. No money required. For particulars address M. H. Pemberton, Columbia, Mo.



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sia raises 85.2%, Austria 6.3%, France, 2.1%, Italy, 2%, Belgium 1.3% and Ireland 1.2%. Now, North Dakota raises as many, if not more tons of flax straw than Russia.

Professor H. Batchelor of Fargo, has made an exhaustive study of North Dakota flax straw, he gives it as his opinion, that the straw is suitable for the manufacture of linen goods, not only of the inferior grades, but also the finer qualities. He states it as his belief that in a generation North Dakota will become the linen center of the world.

Nearly all of the machinery used in the manufacture of linen from flax straw is made in England and the import duty is heavy, the duty on \$100,000 of machinery would be about \$60,000 which of itself, would impose a heavy burden on the new industry.

At the first session of the 61st Congress, a bill was introduced known as McCumber Amendment to the bill (H. R. 1438 "That all machines used for the manufacture of linen or cloth from flax and flax fiber, imported prior to January first, nineteen hundred and twelve, shall be admitted free of duty. Thanks to the efforts of Senator McCumber this bill became a part of the tariff law.

As a result of this law, machinery has been ordered in England by the Flickertail Linen Mill Company, the company will commence the erection of a factory early next summer, the site selected is in the coal belt and a manufacturing town will be established. This will be the beginning of the linen industry in North Dakota, and important developments may be looked for.

North Dakota is especially favored as a locality for the manufacture of linen goods from flax straw. This is true for two reasons: First, the enormous deposits of fuel, assure for years to come cheap power; second, the large acreage planted to flax, gives assurance of an abundant supply of straw for the manufacture of all grades of linens.

How important cheap power is to the linen industry can be judged when it is understood that in nearly all of the different processes the manufacture requires heat and moisture. The better grades of linen are spun wet, which requires a large amount of steam. In the cost of manufacture, power, steam and heat figure one-third.

Therefore it will be seen that North Dakota has two of the most important requisites for the establishment of the linen industry. There is no part of the globe so favorably situated in these two particulars. There remains then, only the labor problem. It is a fact that labor is ever ready and willing to take up residence in any locality where steady employment can be had at good wages.

The Flickertail Linen Mills Company

has provided for the labor problem so far as it is concerned. The superintendent of one of the large linen mills in Ireland has interested himself in the company, and as soon as the buildings are erected he will attend to the installation of the machinery. He will have charge of the operations, and will teach the new mill hands how to make the various grades and qualities of linen fabrics.

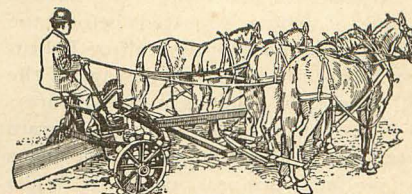
It is of course unfortunate that nearly all of the machinery used has to be bought in England, but for the present there will not be any duty on such machines, because Senator McCumber last June had a law passed admitting it free of duty. Senator McCumber, speaking on the measure, said, "My state should become a manufacturing state, for the reason that it has been endowed by the creator with enormous deposits of fuel and vast quantities of raw materials." "The passage of this bill will give our people the needed start, with manufacturing, we will have a home market for all the wheat and all other products of the farm, this will add millions of dollars annually to the wealth of the farmers without their having to do any additional work to secure it."

The importance of industrial enterprises to the whole people are beginning to dawn on the citizens of North Dakota. A generation hence will see the state teeming with industries of all kinds. The creation of new wealth by these various manufactories will astonish the world.

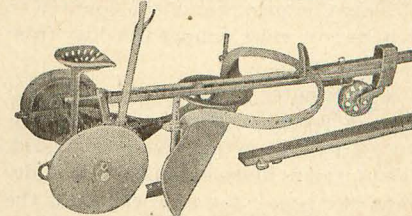
COMING TO STAY

Scientific farming is coming, says the New York Farmer. Its advance agents are the agricultural experiment stations, the farmers' institutes, and the agricultural schools and colleges.

GRAND 5-YEAR OFFER, PAGE 20



Edwards Rural Road Grader and Ditcher
will do your Township Road Work and make Ditches through your low lands, wt. 1000 lbs.



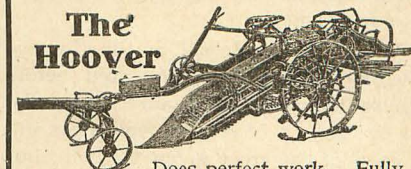
Edwards Modern Road Grader and Leveler.
A General purpose Road Grader, Road Leveler and Irrigation Land Machine. wt. 600 lbs.



Edwards Stump Puller—3 Sizes Made.
Three Machines that will please where others fail, the prices are right for you to buy. **Shipped on Trial, Guaranteed the Best.** Send for Catalog—tell about your work.
C. D. EDWARDS, ALBERT LEA, MINN.

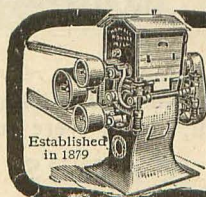
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Forty acres are an easy possibility with the REEVES STEAM MULTIPLE GANG PLOW.

The only really successful outfit is the **Reeves Flexible-Frame Steam-Lift Engine Gang Plow**

because it does perfect work in all conditions of land. Flexible frame and running of plows in pairs gives REEVES PLOWS a great advantage over others. There are a dozen points of Reeves superiority.

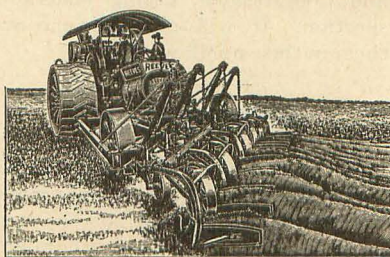
WRITE FOR FREE BOOK

telling the whole story of steam plowing. Shows steam-plowing scenes and gives letters from steam-plow users.

REEVES & COMPANY

104 5th Street,

COLUMBUS, IND.



HELP BOOST FEDERAL INSPECTION

Former President Fitch of the Chicago Board of Trade appeared before the House Committee on Agriculture February 17 to protest against passage of the bill to prohibit dealings in grain futures; he stated that, "If dealings in grain futures is prohibited there will be chaos in produce business circles." While talking about grains Mr. Fitch incidentally made the prediction that, "Unless Congress wants the country to go hungry it must remove the duty from Canadian wheat."

Now Senator McCumber in the address delivered by him before the Tri-State Grain Growers' Convention said, "The farmers must organize," "the demand of a people for cheaper food is the most effective demand in the world, as the history of every country will demonstrate. Even the present high prices we have obtained are calling forth protests against any protection to food products."

Too soon this prediction has been verified. How kind of Mr. Fitch to appeal to Congress to remove the duty on grain! The removal of the duty on wheat would cost the farmers of the State of North Dakota at least 12 cents a bushel, causing them a money loss on the basis of this year's crop of \$10,800,000. Are the grain growers of this state willing to stand for this?

Mr. J. F. C. Merrill of the Chicago Board of Trade also appeared before House Committee, and said "We are not all perfect. I have seen legislators unworthy of the trust given to them, but that does not damn the scheme of legislation. We have things hanging on to our business that we are just as anxious to shave off as you are, but a capital operation is unnecessary." This is the same J. F. C. Merrill, who last September at Chicago, addressed the delegates to the Assembly of Grain Exchanges, saying at that time, "Senator McCumber's plan for Federal Inspection of grain is unconstitutional." He denounced the bill, saying further, "This whole thing emanates from North Dakota. What that state needs is more fanning mills to clean the foul stuff out of its wheat and less laws."

Congressman Hanna says that gambling in grain futures must be stopped, he told a friend, that he would "do all that lay in his power to aid in the passage of legislation that would drive the Boards of Trade out of business. It is an evil robbing alike both the producer and the consumer. "I am in favor of Federal Inspection of Grain and when the McCumber bill comes over to the House I will make it my business to push it thru as rapidly as possible."

Let every farmer write his Senators

JACK PINE PLANTATION

(*Pinus divaricata*)

This photo shows part of the experimental plantation designed and established by B. E. Fernow when chief of the Forestry Division, U. S. Department of Agriculture. Many different species were planted, but Jack Pine did best of all.



This plantation is on very sandy land, where the sand drifts when sod is broken. The plants, when set, were seedlings about ten inches high. They were supplied by

H. B. AYERS, of Kimberly, Minn.,

who now has a nursery devoted exclusively to the propagation of Jack Pine for prairie planting.

and Congressmen, urging Federal Inspection. It will aid and encourage them in their uphill work.

MYERS SEWING AWL

Many of our readers have already taken advantage of our special premium offer found on page 2 of this issue. This offer is liable to be withdrawn at any time. These awls cannot be bought

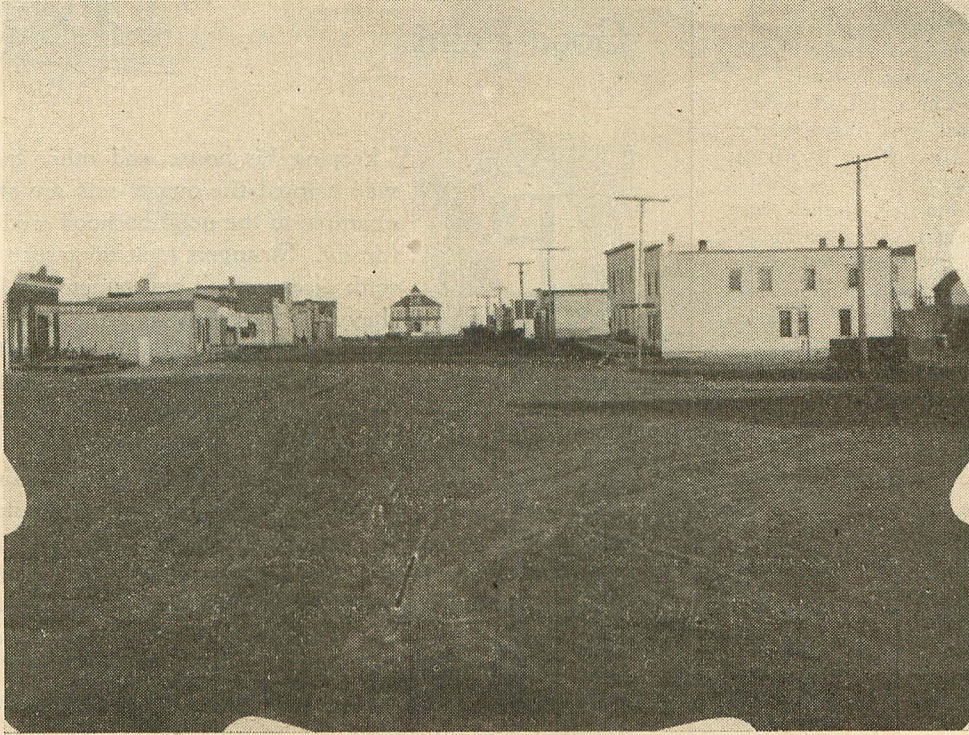
for less than one dollar, and yet this awl is given as a premium for simply one two-year subscription or two one-year subscriptions.

GROCERIES

Buy at wholesale and save money. Write today for free catalog 103. **GRIGGS & CO., ST. PAUL**

North Dakota Farmers Show Their Appreciation of Institute Privileges by Enthusiastic Meetings

By C. H. Sikes



Calvin, N. D. at the Age of Five Years

CALVIN

Mr. Chapman spoke in place of Mr. Hoverstad at 1:30 p. m. The citizens gave a street parade of blooded horses. There were on exhibit three or four Percherons, four Clydes and a French coach stallion, which shows that the farmers in the vicinity of Calvin are very progressive in this line of stock raising. The evening session was opened by Mr. Gregg. Mr. Chapman spoke on the agricultural education and progress in Minnesota; Palmer, on clover and alfalfa; Chapman on gardening.

On the second day Mr. Palmer spoke on trees; Mr. Gregg on wind-breaks and shelter belts; Mr. Chapman on poultry care and feeding. In the evening session O. C. Gregg lectured on the South and its people and their customs.

ESMOND

The Farmers' Institute at Esmond was well attended. The forenoon program: Hoverstad on grain growing; Gregg on dry farming; Palmer on forestry. Afternoon program: Hoverstad on clover, alfalfa and weeds; Gregg on cattle; Palmer on seed selection. Evening program: Palmer on flax and its culture, and blight; O. C. Gregg on education of the young.

Esmond, N. D. is a fine growing town on the very tableland at the head waters of the Sheyenne River; is only eight years old and boasts of a fleet of N. D. battleships of seven elevators; is a good commercial point and is visited daily by nearly a dozen traveling men. Cut shown elsewhere in this issue illustrates excellent facilities for storing No. 1 wheat, flax and other cereals.

NEW ROCKFORD

Meeting was opened by Prof. O. C. Gregg upon the subject of dairy cows, selection and improvement of breeds, also how to get beef stock from the milking breed. Prof. Palmer spoke upon soil preparation, seed selection and plant growth. Seeds should be selected from assorted seeds grown near home. He compared selection of seed with the selection of breeds of domestic animals. He then explained how to analyze seeds thru the aid of the A. C. and how farmers are to be protected by N. D. seed law. Questions were answered by Mr. Gregg.

Afternoon session fairly well attended, opened by chairman. Palmer explained the science of tree culture, wind breaks and shelter belts, the selection of trees, care and cultivation of soil, mulching,

etc. He recommends the grey willow and advised the planting in double rows. He also explained that tree culture would attract birds, which are so necessary in agriculture. Then N. T. Henderson, a member, recommended the Diamond Willow. Mr. Hugh People spoke highly of the grey willow and growth from cuttings. Prof. Gregg spoke of his experience in farming and his pride in the vocation (cheers). He spoke of the hired man who does the work in such a way as to make his position as essential as that of the farmer himself. He then told of his mistakes in building a home without leaving room between his buildings and the roads for tree planting and then illustrated how to plant trees properly. He then gave a brief history of his tree planting and the discouragements at first; but later of his final success and how his trees increased the value of his lands at least double.

He next told us how he could defy the winds in the worst blizzards. He says that the first great essential in making shelter belts is to get your rows of trees at sufficient distance from your buildings, so that you can plant orchards and gardens within the area thus made and enclosed. He taught us how to grow evergreens and spoke of their beauty on

the premises. He talked of the good times in this northern climate and the gentle manners cultivated in the minds of our people during storms and hard times of the past. The audience was very much interested and bade him continue after the hour of closing.

CARRINGTON

The audience was small early in the forenoon. Meeting was opened by Prof. Palmer and the questions asked by members present were answered by Profs. Gregg and Hoverstad. At about the noon hour many farmers began to arrive and a sumptuous dinner was served to all present by the Carrington Commercial Club. Afternoon meeting opened by Prof. Hoverstad, commenting upon the annual book of the institute, recommending the careful reading of same and the keeping of a diary of farm work upon loose leaves.

Question. In preparing land for clover should we summer-fallow the land so to be used? Answer by Prof. Hoverstad: I am not an advocate of summer-fallowing only upon a few occasions. I prefer the plowing in of green manure as a plant food for clover to that of plowing or turning over weeds, as in summer-fallowing. He explained that the loss of humus in soil was greater in summer-fallowing. Mr. Gregg then spoke on clover raising. He had found thru science that there were forty elements for the farmer to take care of, but that to his great relief he had since found that Nature would take care of 37 of these elements, leaving quite an easy task for the farmer in caring for the rest, phosphoric acid, potash and nitrogen. He then illustrated upon the blackboard the power that the clover plant had in taking up the elements contained in the soil thru the peculiar construction of its nodules and its bacteria.

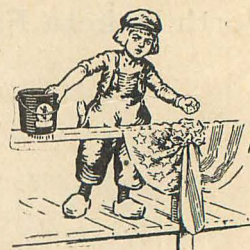
Prof. Hoverstad then took up the growing of clover and its new and successful adaptability to the soils in the Red River Valley, taking a case near Casselton, N. D., where 400 and nearly 500 bushels were raised last year from 100 acres. He also spoke of the sowing and cutting of alfalfa.

Question. Do the clover roots always have these bacteria? Answer by Hoverstad: Yes, in a majority of cases.

Question. Why does clover not produce seed at first crop? Answer by Hoverstad: If I were in the east or south, my answer would be different as we are now speaking of the so-called medium red clover, not the mammoth or the alsike. I will say that it does produce from first crop in North Dakota.

Prof. Porter in charge of the demonstrating farms gave some very valuable information and statistics of same and showed the plan of operation upon those farms. He demonstrated upon black-

A Good Citizen Should Use Good Paint



Y keeping his house and other buildings well painted the owner sets an excellent example to the neighborhood and to his family. Strangers look upon such a place with pleasure. They remember it when they pass that way again. "The boys" take a feeling of pride in their attractive

home and realize that no matter how costly another house may be it cannot be neater than the one in which they live. Thus a feeling of loyalty to the home is developed.

¶ Securing the best results in exterior and interior painting is simply a matter of using pure white lead ("Dutch Boy Painter" trade mark) and linseed oil. Paint made of these materials gives beauty and lasting protection to property.

¶ Paint made from inferior substitutes for pure white lead, soon fades, cracks, peels and blisters. It gives neither durable beauty nor adequate protection. The "Dutch Boy Painter" trade mark on the white lead you use is an assurance of economy and satisfaction.

¶ There are some points about paint and painting which every property-owner should know. They are brought out in our "Dutch Boy Paint Adviser No. 38," a collection of booklets which we will send free on request. Write today.

Our Pure White Lead ("Dutch Boy Painter" trade mark) is now packed in steel kegs, dark gun-metal finish, instead of in oak kegs as heretofore. Ask your dealer.

NATIONAL LEAD COMPANY

An office in each of the following cities:

New York Boston Buffalo Cincinnati Cleveland Chicago St. Louis
(John T. Lewis & Bros. Co., Philadelphia)
(National Lead & Oil Company, Pittsburgh)

board the laying out of fields for rotation of crops and about disking corn ground in fall for spring wheat. He also explained process of spraying for weeds and recommended the dragging of ground after sowing in the early season for weed extinction as being the cheapest, best and most available method for farmers to adopt. He then spoke of clover and alfalfa, how to inoculate the soil. He spoke about field peas as a crop for ground preparation and as to their being a paying crop.

Question. Is it best to sow clover in spring? Yes, sow in spring and raise two crops before plowing up the land.

Prof. Hoverstad speaks on farming in other countries and of gradual rotation of crops and diversified farming, the

growing of grasses being the first step; then livestock; then for better crops of grain. Mr. Gregg then talked about the selection of good dairy cows, their eating capacity, their conformation and milking points, how to select them, and the use of the right kind of a sire. He told how he was led to select and purchase a sire for his dairy in Minnesota after twelve years of unsuccessful dairying, and how by this selection he redeemed his herd of cows by careful and judicious study and application.

MUNICH

Mr. O. C. Gregg opened meeting on the subject of cows. Mr. Chapman on gardening. In the afternoon Mr. Chapman and Gregg visited schools. At the institute Mr. Chapman spoke on poul-

Food for Stock--Food for Thought



Fodder Corn as Raised in Morton County

try and how to succeed with fowls. Mr. Gregg, upon corn; and in the latter part of afternoon, there was a cow exhibition on the streets. Mr. Thorlack winning 1st; Thompson, 2nd; J. D. Jamen, 3rd. In the evening Mr. Gregg spoke on cattle and Mr. Chatman on apple growing.

HAMPDEN

Mr. A. B. Brandt, cashier of National Bank, opened meeting. O. C. Gregg spoke on improvements, and farm machinery; Messrs Chapman, Palmer and Gregg, on vegetables, trees, soil management, clover, apples, corn, poultry and Mr. Palmer gave a short talk on weeds. The attendance here was fair.

EDMORE

Mr. Chapman spoke on farmers' garden in forenoon. The Edmore band added greatly to our enjoyment during the morning, noon and evening. In the afternoon Mr. Chapman spoke on strawberry growing, corn and schools. In the evening he exhibited his model hen-house. There was a good attendance and much enthusiasm.

LAKOTA

A short afternoon session was held here conducted by Mr. Chapman, who talked about hens, strawberries, tree culture and apple raising. The attendance was small.

WILLOW CITY

Mr. Swensade opened meeting. O. C. Gregg spoke on soil management. Mr. Palmer on seeds. Excellent music was furnished by band and a free dinner was furnished by the commercial club. Mr. Palmer talked on clover and alfalfa. O. C. Gregg, on wild oats and corn. Mr. Palmer on principles of tree growing. Mr. Gregg on wind breaks and shelter belts. The attendance was light.

WESTHOPE

West hope is a nice little city of 700 or 800 inhabitants, and noted for being in the gas belt. This little city is lighted and heated by natural gas and I am informed that a ten-room house has been heated and lighted so far this winter at the small cost of \$46. Surely there has not been enough said about this wonderful enterprise. The city is situated on the Antler and Rugby branch of the G. N. R. R. and just west of the Turtle Mountains and on a tributary of the Mouse River. Mr. Gregg spoke on soil management, the farm and the dairy. In the evening he discoursed on the southern question. The writer was shown a nice bed of clover raised by the proprietor of the Westhope hotel. As the weather was rather cool meeting was only fairly attended.

BOTTINEAU

Institute opened by O. C. Gregg, who spoke upon machinery used on farm and the great changes and improvements in past forty years. He also spoke a short time on his favorite subject the dairy cow. Clover, alfalfa, soil management, corn, seeds and animal breeding were treated. Bottineau is a lively town of about 1300 inhabitants, located on the Antler and Rugby branch of G. N. R. R. and on a small northern branch of the Souris or Mouse River and at the foot of the Turtle Mountains. It is in the natural gas region.

LANSFORD

The forenoon session was opened by O. C. Gregg who, with Mr. Palmer, discussed alfalfa, clover, seeds, seed grain, the state seed law and trees, their culture and growth. The commercial club furnished free dinner for all. In the afternoon O. C. Gregg spoke on corn and Mr. Palmer on smut on grain.

Lansford is a thriving little town on the Granville and Sherwood branch of G. N. R. R. and at the crossing of the Soo line. This town also is lighted and heated by natural gas.

SHERWOOD

Unfortunately it rained all day. O. C. Gregg talked on trees and their usefulness to farmers; Mr. Palmer on wild oats and weeds. One of the most interesting institutes. Attendance very good for so stormy a day.

MOHALL

The attendance at this institute was fair. Those who did attend listened with deep interest to Messrs Gregg and Palmer as they discussed clover, the dairy herd, alfalfa and seed selection and treatment.

GLENBURN

A picnic dinner was prepared free for all. Gregg discussed improvements in farming methods; Palmer, clover and alfalfa. Tree planting was encouraged by Messrs Palmer and Gregg. There was only a short session. Mr. Gregg lectured on the subject, "The cow," in the evening.

Glenburn is a well located town on high and rolling prairie lands in Ward county, on Granville, Sherwood branch of G. N. R. R. The attendance here was good and farmers showed much interest.

DEERING

The weather was like summer during this meeting and farmers were busy all over the country seeding and preparing ground, therefore attendance was small. Messrs Palmer and Gregg spoke on clover and alfalfa, improvement in agricultural implements and in afternoon Mr. Gregg talked on trees and corn and on his favorite topic, the dairy cow. The train service was such as to make stay here short.

WILLISTON

Williston, the county seat of Williams county, N. D. is situated on the north bank of the Missouri river near the confluence of the Yellowstone River. The surrounding country is picturesque as the bluffs and breakers in a distance remind one of a strongly fortified place, while on the north bank of the river there is nearly one mile of riprap bankage. Here are situated the works of the Government irrigation works, also the Williston racing stables, race tracks and fair grounds.

There are many striking features of this young city of Williston that greet the eye of the visitor. Its broad cement walks and elegant and modern business houses are conspicuous, while there still exists a good many of its more primitive log and block buildings, reminding you of the pioneer life so recently supplanted by modern comforts.

Elegant four-in-hand draft teams owned by farmers and ranchmen are to be seen, while automobiles in goodly numbers frequent the streets vying with the wild geese overhead in their "Honk! Honk!" Williston is one the main line of the Great Northern R. R., has two graded high schools, churches of nearly all denominations, numerous elevators and a grist mill of 500 bbl capacity, 5 banks, 5 liverys, and 5 hotels.

This city is in close proximity to some

very valuable coal mines, while the bluffs in the neighborhood carry rich deposits of ingredients used in the manufacture of cement. There are some signs of petroleum and gas yet awaiting development. It was here in this thriving young city of 4000 in habitants that on the fourth day of April, 1910 the farmers of the surrounding country, with the Williston Brass Band marched to Gates' Hall and listened with interest to the speakers of the day at the farmers' institute. O. C. Gregg who talked on dairying, feed and selection of cows; Thos. Shaw, on irrigation and dry farming; Mr. O'Donnell on irrigation and dry farming.

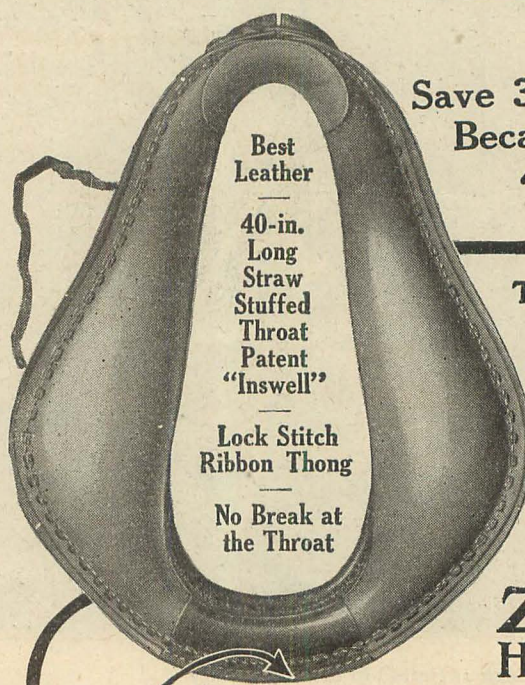
There was a good attendance of farmers, settlers and business men and the commercial club of Williston furnished an elegant dinner for all. The Williston Brass band played several inspiring selections in open air. The weather being like summer there was a large attendance at the institute. Judging from the number subscribing for the North

Dakota Farmer we think there are many who intend to improve their stock and farm holdings by beginning right and farming intelligently.

THE FOREST RANGER

Hamlin Garland's new novel "Cavanagh—Forest Ranger," was one of those books, he says, which "have to be written." It sprang from his long and intimate knowledge of the forest-ranger, and it is in line with his creed as an author, writing of what he knows about. He is an enthusiastic supporter of forest preservation and, while he recognized and states many of the necessary shortcomings of the service, he has put into Cavanagh's experience much of the heroism which is required of the lonely rangers, whose care has made every national forest a place of law and order in the midst of a land where violence is still

3 PAIRS SHEARS FREE, PAGE 31



Best
Leather

40-in.
Long
Straw
Stuffed
Throat
Patent
"Inswell"

Lock Stitch
Ribbon Thong

No Break at
the Throat

**Save 3 Times the Cost
Because They Wear
4 Times as Long**

The Zenith "Inswell" Collars are built with an absolute certainty as to fit, to comfort, to utility.

The man who works draft horses recognizes almost by instinct why these collars should be best for his purpose.

ZENITH Horse Collars

are made with a solid leather reinforced throat that is absolutely unbreakable. The throat is hand-stuffed with 40-inch hand-flailed rye straw that is very tough. Rims are stuffed with 12-inch rye straw. Our patent "Lock Stitch Ribbon Thong" stitching insures against ripping. It binds the thong and makes ripping of the rim from the collar impossible. Used also in binding the collar edge.

"Lock Stitch
Ribbon Thong"
Stitching

The "Inswell" feature is exclusive and insures perfect fit. The collars fit the neck at every point and, what is more, the broad bearing surface divides the load, brings the pull directly in the center of the collar, and also protects the shoulder bones. Galling is impossible.

You save your horse, increase his power and save money.

The Zenith Harness and Saddles are of the same standard as the collar. See them at your nearest dealer's.

Write for free Booklet "Collarology."



MARSHALL-WELLS HARDWARE COMPANY
Duluth Spokane Portland

Dept. C.

common. Cavanagh represents the new, law-abiding West, as against the old disregard of law and of human life. This is one of the publications of Harpers Bros., New York City.

GRIMM SEED IN DEMAND

There will soon be a great demand for Grimm Alfalfa seed. Unscrupulous dealers will not hesitate to sell common alfalfa seed for the Grimm. This will work a hardship upon the farmer. It would be a wise thing for the state to regulate in some measure the sale of alfalfa seed and require seed sold as Grimm to be properly certified to. It will probably be found that the production of alfalfa seed is a profitable venture in North Dakota. In 1909, the Dickinson experiment station produced alfalfa seed at the rate of 5.6 bushels per acre. At the present prices of seed this would mean an income of at least \$100 per acre. Doubtless these figures are above the average. Even a yield of 2½ bushels per acre would be profitable.

L. R. WALDRON,
Supt. Dickinson Sub-station.

EMIGRANTS FOR CAVALIER COUNTY

Twenty-five families from the state of Illinois, bringing along with them a train of 40 carloads of livestock, farm machinery and emigrant goods, make up a special train starting from Bloom-

ington, Ill., bound for Cavalier county, where during the past three months, they have closed deals for the purchase of farms ranging in area from a quarter section to two sections, located principally in the western part of the county. They shipped from Leroy, Ill., over the Burlington and C. & A. railroads, the train conveying the stock, household goods and farm machinery being made up so as to include a special coach for the men accompanying the horses and livestock on the train. The towns where the cars were loaded are Campaign and Leroy. En route they were taken over the Big Four road to Peoria, thence to St. Paul over the Burlington and the remainder

of the journey to North Dakota over the Great Northern.

The 25 families composing this party started on their trip north, leaving Illinois over the same lines of railroad, the coaches carrying them being equipped with berths and other accommodations for the trip.

Shall oleomargarine be put on the same basis with butter? What do our dairymen think about it? Shall we see the American dairymen ruined to benefit the packers meat trust?

GRAND 5-YEAR OFFER, PAGE 20

Quack Grass

Can be destroyed and the worst field reclaimed. The only known method of completely destroying this pest. Discovered and explained fully by P. B. Crane, a Minnesota farmer. The Crane method is recommended by Agricultural Colleges and all practical farmers who have tried it. Write for their testimonials and full particulars. Requires no extra machinery. Any one can do the work. The honesty of this method is guaranteed by the Webb Pub. Co.—The largest farm book publishers in the West. It only costs a postal card to investigate. Why not write today.

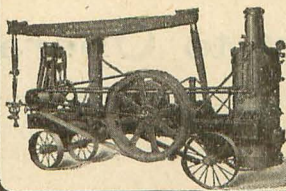
WEBB PUBLISHING COMPANY,

339 --The Farmer Building,

St. Paul, Minn.

Killed

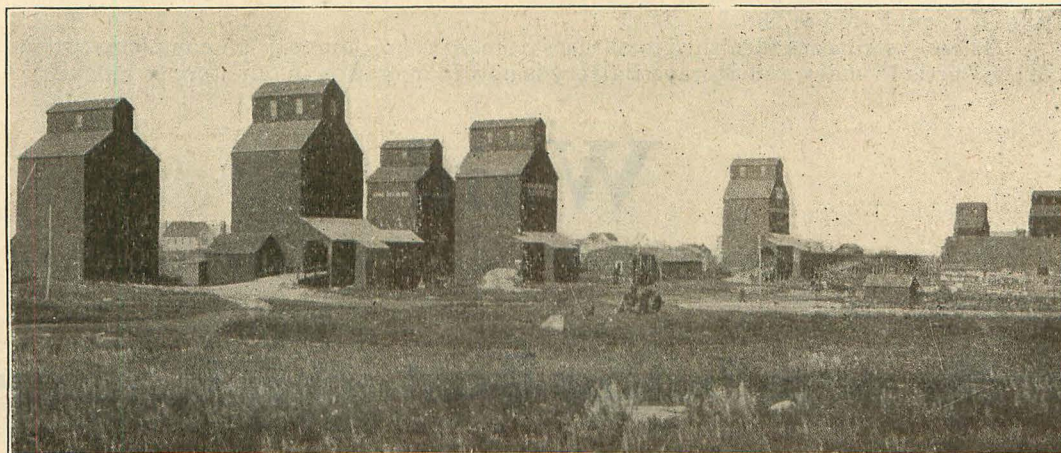
Well Drilling Machinery



You can make big money making wells. This is one of the few lines of work that are not over crowded. The demand for wells is far greater than can be supplied by the machines now at work. Well Drillers command their own prices. We build the celebrated HOWELL line of Well Machinery, for making deep or shallow wells of all sizes, for all purposes and in all kinds of ground. Our machines are the most up-to-date on the market, contain all the latest improvements, are extremely strong and simple, do perfect work, are easily operated and are very FAST WORKERS. Write to-day for our free Catalog A.

R. R. HOWELL & CO., Minneapolis, Minn.

A Fleet of North Dakota Battleships at Anchor in an Ocean of Grain Fields



Seven grain elevators at Esmond, N. D. Proof of the wheat-producing powers of the vicinity. One million bushels of grain marketed annually, in this 8-year-old town. Tributary to Esmond is to be found the cheapest good land in the state of North Dakota. Watch rapid increase of values and prices of farm lands here, when Great Northern cut-off, Fargo to Minot, via New Rockford, is built, as expected, in 1910. Choice improved and unimproved farm lands for sale. For prices and particulars write

STYLES & KOFFEL, Esmond, North Dakota

SIMPLY WONDERFUL

THE Curtis Primary and Storage Battery is an invention which furnishes light and power without the use of an engine or dynamo at less cost than any other system. It is absolutely safe from shocks, fire or explosion and it is so simple that a child can operate it.

It is now possible for you, no matter how far from a city you may be located, to have electric light and power in your home. The battery will furnish power enough to run light machinery, such as cream separators, washing machines and wringers, vacuum house cleaners, massage machines and dental lathes. For years it has been the aim of inventors to find a combination of chemicals that would produce electric energy from which electric light and power could be manufactured at a cost that would not be prohibitive for commercial use. All this has been accomplished by the invention of the Curtis Primary and Storage Battery.

The batteries are so constructed that they will last a life time, and are so simple that no mechanical skill is necessary to operate them. Recharge once a month which requires about three minutes work.

Cost to Operate

The cost of operating the Curtis Primary and Storage Battery System is less than any other electric lighting system on the market today. A 20-light 16 candle power system will furnish light for 250 lamp hours on one charge. The cost of recharging is \$2.00.

Absolute Safety

Due to the construction of the batteries we guarantee them to be absolutely safe from fire, explosion or shock.

These systems are furnished in all sizes from 10 to 500 lamps. A complete system of the Curtis Primary and Storage Battery is now in operation in our store in Fingal.

Wait!

Don't buy any other lighting system until you have investigated the Curtis Primary and Storage Battery.

Our System is the Best and Cheapest

Correspondence solicited

GEO. WALKER, Agent

Fingal, N. Dak.

WELCOME

To the many hundred new subscribers to the North Dakota Farmer, we extend a most cordial welcome. We shall do our utmost to serve you. We invite you to consult us on any question relating to farm life, your question will be submitted to the highest authority in the state on the matter. We believe every advertiser patronizing our columns to be reliable. We depend for our existence upon the advertising patronage given us, and we ask you always to mention the North Dakota Farmer when writing advertisers.

AMONG OUR ADVERTISERS.

OUR PAINT ADS

It is a pleasure to advertise just such paint manufacturers as appear in our pages. The fact that certain "watered paint" concerns are conspicuous by their absence is a source of great satisfaction. If our readers were to examine critically the paint fences at the Experiment Station they would not wonder why some "alleged" paints can be sold at "65 cents a gallon." There is nothing dearer than cheap paint; no paint cheaper than good paint. Select your paint by the good name of the manufacturer, not by the boastful claims of a "dope" maker.

Sweeney Cured With Two Applications

I got a bottle of your Gombault's Caustic Balsam and I would not now do without it. I used it on a sweened mule and cured it with two applications. We use it on ourselves a good deal and it is a great healer.—J. H. McHART, Mayfield, Kans.

Never Fails.

Toms River, N. J. Sept. 24, '09.
DR. B. J. KENDALL CO.
Dear Sirs:—Please send one of your free books A Treatise on the Horse. I have used your Spavin Cure and Blister for years on my own horses, and many others brought to me to cure, and it has never failed yet.

Yours truly,
Silas P. Newman.

GROUND FEED VS. WHOLE GRAIN

In this day of cheap power—artesian wells, wind or gasoline—you cannot afford to feed whole grain, when for a small amount roller feed mills may be purchased. R. R. Howell & Co., Minneapolis, Minn., who have been established nearly forty years, are furnishing an excellent mill in thirteen sizes. They not only furnish the mill, but they manufacture the machinery for drilling wells, by means of which, in the artesian belt, ample power may be obtained for operating these mills as well as other farm machinery.

JACK PINES ON THE PRAIRIES

Those who are interested in tree culture on our prairies will do well to read the advertisement of H. B. Ayers, of Kimberly, Minn. These Jack Pines will flourish where the soil is somewhat

sandy, and will furnish a most excellent shelter belt.

THREE PAIRS OF SHEARS

To those who renew their subscriptions to the North Dakota Farmer for two years, we now offer a set of three pairs of shears. The farmer's wife is gently hinting that the premium, which is fully worth the price of the two-years' subscription, be mailed to her, and we see no reason why she should not have the benefit of this premium. Myers Awl or the Three-Piece Shears Set is given for one two-year subscription or two one-year subscriptions.

PEOPLES UNIVERSITY

On page 31 will be found an advertisement of the American Woman's League. We most heartily commend the American Woman's League to the attention of every reader of this paper. It is the most remarkable organization in the country, and every mother who has children to educate should inquire into its merits.

HOW TO REDUCE LIVING EXPENSES

Hundreds of New Ways to Prepare Food Economically

Statistics prove that the cost of living has steadily increased, and will continue to increase. At the same time the wage scale has not grown proportionately large enough to offset this.

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North Dakota Farmer

AND SANITARY HOME

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Vol. 11 APRIL, 1910. No. 10

It is said three-fourths of all school houses are constructed without regard to proper sanitation.

Ice is always much purer than the water of the river or lake when cut. Freezing forces the impurities and the bacteria as well lower down and leaves the ice crystals much purified.

Do not have the privy near the well. They should be far apart or sooner or later when disease finds its way into the community you or some member of your family may be the victim.

Recently a farmer found a large herd of mules failing altho they had an abundance of the best of feed. An analysis of the water revealed the trouble. Bad water keeps many animals from thriving and doing as well as they should.

Too many eggs are kept without proper care and then come on to the market unfit for food. Sometimes held for a better price. Such eggs are not fit for food and any party offering such for sale is liable to a fine of \$25 to \$100. This applies to the farmer as well as to the retailer.

Eggs may be kept in a solution of water glass. One quart of good water-glass to twelve quarts of boiled water is an excellent preservative. Use tin or an earthen crock as best receptacle. Drop the eggs in while perfectly fresh. Bad eggs will spoil the others. Eggs will keep six months in a cool place in this solution.

In New York 48% of all school children are reported as having defective vision.

A good garden is no luxury. It is one of the best things on the farm. It makes for good health with the family.

Analysis of many hundreds of samples of water shows many of the waters to be so heavily charged with mineral salts such as alkali (sodium bicarbonate) Glauber salts (sodium sulfate), Epsom salts (Magnesium sulfate), or common salt (sodium chloride) as to be a real source of danger for both man and beast.

It is reported that the trusts have in cold storage 14,000,000 steers, 6,000,000 calves, 25,000,000 sheep, 50,000,000 hogs, and 2,000,000,000 eggs. Does the law of supply and demand take this fact into consideration? Does the farmer get his due share of the profit? What about the consumer?

It is said tuberculosis germs may live for a long time in water. All the more reason why we should keep cleaned up about the yard.

The farm should be the healthiest place on earth but it has been found that the two twin disease spreaders, the well and the privy vault are so close together that often the farm is more dangerous than the city.

Press Bulletin No. 34 has just been published. It contains the address given by W. R. Porter, Superintendent of the state demonstration farms, at Billings, Montana on Oct. 29th before the Dry Farming Congress. It gives the history and location of the different demonstration farms of the state, the crop rotations used, the method employed, and the results obtained. These results, secured thru proper cultivation and crop rotation, are very striking indeed.

The officials of the Northern Pacific Railroad were so impressed with the address given at Billings by Supt. Porter that they asked for 5,000 copies for distribution in their territory with the approval of the North Dakota Experiment Station. This request resulted in the publication of the address in bulletin form. Since that time the Milwaukee and Great Northern Railroads have each ordered 5,000 copies. The college still has several hundred copies on hand which will be mailed upon request.

MAINTAINING SOIL FERTILITY

A great deal is being said of late with regard to maintaining soil fertility, preventing the deterioration and running

out of farm lands which have been under cultivation for a long time.

There seems to be two opposite schools; one, generally accepted; and the other, advocated by but a few. One school in its extreme teaching would maintain that the fertility of the land may be maintained for all time, without the addition of fertilizers, if a system of crop rotation is followed. They maintain that the injury in the soil is due more to the toxic effect of growing some crop on the land for succeeding years than to a depletion of soil fertility. From a practical standpoint, viz., that one may draw from their bank account or supply continuously without materially depleting that supply or deposit, such a view is absurd. That much may be done to hold the condition of the soil to a higher standard by the way of crop rotation properly practiced is true, but in general practice it is questionable whether we may hope to keep the soil fertility without the addition of fertilizing elements, commercial fertilizers, farmyard manures and above all the organic matter necessary to maintain good humus content in the soil.

The best of our soils have but a limited amount of nitrogen, phosphoric acid, potash and lime, not all of which is readily available as plant food; and each of which can only be unlocked slowly for the use of the plant. The amount of these fertilizing constituents in the various soils is comparatively small as compared with the total soil itself. We know that most soils contain only about .15 of 1 per cent of phosphoric acid, while some North Dakota soils may contain as much as .25 of 1 per cent. It has further been shown that when phosphoric acid has been brought down to .1 of 1 per cent in the soil the crops have become meagre and of inferior quality. Now will any system of crop rotation tend to put back this phosphoric acid, potash, lime, etc., that has been removed from the soil? Such has not been the experience of those who have studied this question. We advise thinking men to go slow in accepting the theory that crop rotation is all that is necessary to maintain soil fertility. I know of no chemist of standing among those connected with the Agricultural Colleges and Experiment Stations who has adopted such a view, and the practical experience of our best farmers does not lead to such a conclusion.

That plants exude toxic ingredients and active principles has been known for a long time. It was years ago pointed out by Sanborn of the New Hampshire Experiment Station. The growth of the same kind of crop on the soil undoubtedly tends to increase a given kind of fungi which may be to a greater or less extent detrimental to the

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M. V. FACEY, Preston, Fillmore Co., Minn

growth of the particular plant, whereas crop rotation tends to prevent such accumulation. Crop rotation also gives the plants different feeding areas for their roots. One plant may be able to use a tough nitrogen or plant food, while another must have it in much more readily available form. These are all important plant factors and are essential to successful agriculture, but they are by no means the only factors. Just as sure as you pump your system dry by continuously pumping so the soil fertility may be depleted by any system of crop rotation.

CONSERVATION

The conservation of our natural resources is attracting more attention, at the present time, than ever before. President Roosevelt rendered the country a very distinguished service when he called attention to the necessity of saving what, otherwise, would be wantonly wasted and, incidentally, to keep what remains of the public domain, in the form of water power and mineral deposits, from becoming the permanent property of monopolistic organizations. Congress is now wrestling with these momentous questions with strong pressure brought to bear in favor of the big interests. President Taft, with a fair following in Congress, is urging sane legislation—legislation that will prevent a monopoly of what remains of public utilities and to reserve them for the use of the people.

It is not expected nor intended to prevent the fullest development of the country's water power, coal mines, etc., but to regulate the use of them in such manner as will prevent monopolies and monopolistic prices being charged the consumer.

The government should not, under any circumstances, grant permanent private ownership of these utilities, but instead should lease them for a term of years with power to regulate, so far as regulation may become necessary, in order to give the people dependent upon these utilities a square deal.

The time may come, as in Switzerland, when the people may decide to run the government. In that event, it would be very awkward to have all the great natural utilities owned and controlled for all time by gigantic corporations. It is enough that big interests be given a time lease, not so much for the revenue the government would receive, but that the government may safeguard the heritage of our children. The time will come when public utilities, the property of the whole people, can be made better use of than to help swell the estates of millionaires.

Conservation should also and especially apply to the farming lands.

However, with the farms there is not so much danger of monopoly as danger of national impoverishment. Farmers are being educated to conserve the fertility of their lands for their own and for the country's good.

"The strength of a nation is the strength of its soil," and farmers generally are beginning to realize this fact and are improving their methods.

Money naturally seeks money centers, as the needle seeks the magnet, and the power "big money" now exerts upon the produce of the country, taking the cream off practically everything the farmer raises, will in time absorb the cash value of the country's most accessible resources, leaving the increasing millions of people with, in many respects, an exhausted country from which to draw their sustenance.

There is a lot of fool optimism in the country, aided and abetted by the nation's plunderers, for the purpose of keeping their victims happy while the plundering goes on.

The plain people of this country have a big responsibility, and that is to elect men to represent them who will represent them. The spectacle of Congress hesitating or flatly refusing to deal justly with these vital questions, and by its

attitude apparently favorable to donating the country's best resources to private interests "without money and without price," just as city councils often freely give away franchises worth millions of dollars, calls loudly for a very large number of political funerals.

We should all work for a greater America, not an America with the cash value of its natural resources, wastefully converted into money, in the possession of a few unscrupulous men with only a bare but impoverished domain reserved for our children. It is up to the people, to the common people, who can if they will, stand Congress on its head at any time.—J. H. W.

KENDALL'S SPAVIN CURE

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Hempstead, L. I., Apr. 29, 1900.
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Gentlemen: Kindly send me your book. I have used your medicine for about 20 years and find it cannot be beaten.

Yours truly, Daniel T. Stenson.
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See Ad Offer, Page 2--A Winner

Livestock Department

PROF. W. B. RICHARDS, Editor

THE IOWA DAIRY SPECIAL TRAIN

By Hugh G. Van Pelt, Dairy Expert,
Waterloo, Ia.

On Thursday evening, March 10th, there arrived at Burlington, Iowa, the most-talked-of special train ever run over Iowa railroads or railroads in any part of the United States.

A 2,000 mile trip over the Burlington lines in southern Iowa has been completed by the Special Dairy Train, run under the auspices of the Iowa State Dairy Association.

There have been corn trains and oat trains and dairy trains before but never in the history of special trains has there been anything to equal the trip of the dairy special which has just been completed.

Iowa is a great state. She has 550 creameries, 1,500,000 dairy cows, 110,000 creamery patrons and ships away 110,000,000 pounds of butter every year.

But those creameries could turn out twice as much butter if they had the cream. Those patrons could furnish twice as much cream if they had better cows and cows might do twice as well as

they are now doing if they had the right kind of feed and care.

These are things the Iowa State Dairy Association believes are greatly hindering dairying and this organization is bending every effort in correcting the troubles.

A campaign to create interest in and to improve dairy cattle and dairy methods is under way.

The keynote of the argument on this special train has been, not necessarily more cows, but better cows, healthier cows and better feed and care.

At no stop has there been less than a hundred farmers and the attendance has run as high as twelve hundred.

At first the lectures were delivered in the two lecture coaches but before the journey was three days old the news of the success of the dairy train had spread ahead. The crowds had increased beyond the accommodation of the coaches and surely the Lord was with the effort for summer days were showered upon them and speaking, for the remainder of the trip, was done from the car doors to very large crowds in regulation Fourth of July style.

So great was the interest in this work and so important was it considered that in every town the business houses were closed, the schools dismissed and the country people for miles around joined with the town folks in absorbing the real truths with reference to successful dairying, as told by the enthusiastic and practical experts upon the train, who have made this work a life-long study. In many towns the train was met by brass bands, the blowing of whistles and the cheering of the people. As the Dairy Special pulled out of each town, there were many questions still unanswered because of the lack of time and enthusiastic requests for one, two and three day dairy meetings later on. In the evening the stereopticon was used to throw upon the screen photographic views of the good and bad in dairy cattle, dairy barns and dairy utensils and to emphatically impress the difference between them. During almost the entire trip, the country roads were nearly impassable but at every stop among the crowd there were to be found at least a score of farmers who had driven, come on horseback or had walked ten or fifteen miles, thru a foot of sticky mud to see the train and to hear the expert speakers.

Under the personal supervisions of M. M. Reno, Division Passenger Agent, this train was operated over the lines of the C. B. & Q. in southern Iowa and the expense of it was borne by the railroad. It was placed in charge of Prof. Hugh G. Van Pelt, State Dairy Expert, for the Iowa State Dairy Association and the speakers, cattle and dairy equipment

MARCH REPORT OF ST. PAUL UNION STOCKYARDS CO

Comparison of Receipts and Shipments of Livestock

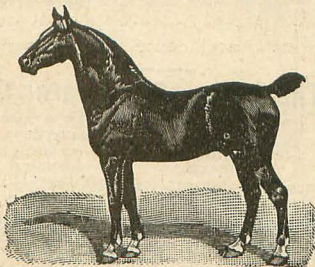
	Receipts						
	Railroads	Cattle	Calves	Hogs	Sheep	Horses	Total Cars
C. R. I. & P.		620	136	741	2	59	39
C. G. W.		1215	422	3173	1033	138	113
C. M. & St. P.		5529	1047	11437	3673	124	407
M. & St. L.		1941	363	6706	472	177	187
C., St. P. M. & C.		3111	538	9672	1638	86	284
C. B. & Q.		254	102	1187	155	34	32
M. St. P. & S. S. M.		5151	2171	5706	821	25	292
Gt. Nor.		9945	3571	14328	12695	60	682
Nor. Pac.		5176	1244	3150	11215	21	292
St. P. B. & T.							
Driven In		793	59	566	370	23	
Total		33735	9653	56666	32074	747	2328
Increase		3459	2053		11931	314	167
Decrease				21708			
Average Wts.		803	165	219	85		
	Shipments						
C. R. I. P.		1451	311				50
C. G. W.		3029	285	1213	552	1	120
C. M. & St. P.		4648	616	183	4395	44	180
M. & St. L.		758	116				23
C. St. P. M. & Co.		3496	1162		1557	17	132
C. B. & Q.		5709	242	9195	1358	29	273
M. St. P. & S. S. M.		458	39	318	8887	82	70
Gt. Nor.		398	249		311	280	32
Nor. Pac.		354	71		68	257	32
St. P. B. & T.							
Driven Out		799	276	160	128	127	
Total		21100	3367	11069	17256	837	912
Increase			483		9598	490	10
Decrease		236		7670			

Comparison of the Origin and Disposition of Livestock

	Origin of Livestock Received						
States	Cattle	Calves	Hogs	Sheep	Horses	Total Cars	
Minnesota	23118	8030	41742	12811	212	1578	
Wisconsin	2494	866	3983	713	78	171	
Iowa	49				276	19	
Far South					87	7	
So. Dakota	2736	302	5806	971	20	192	
No. Dakota	4291	384	5013	1480	20	243	
Montana	1017	3	122	16099	29	115	
Far West							
Manitoba & N.W.							
Far East							
Returned	30	68			25	3	
Totals	33735	9653	56666	32074	747	2328	
	Disposition of Livestock						
So. St. Paul Pkrs	11233	6354	45662	15649			
City & State Bch	1092	506	92	68		41	
Outside Packers	412	755	10596	274		116	
Minnesota	3528	507	176	439	224	114	
Wisconsin	2068	396		1508	11	85	
Iowa	6483	619		99	7	199	
Nebraska	45					1	
Kansas & Missouri	56					2	
So. Dakota		181			28	3	
No. Dakota	154	2			460	31	
Montana & W.					28	1	
Far South							
Manitoba & N.W.	4				15	3	
Mich. & E. Can.	47	9				2	
Chicago	3139	128	205	14868	20	175	
Ills. (ex. Chicago)	3007	129				101	
Eastern Points	1035	180			29	35	
Returned	30	68			25	3	
Totals	21100	3367	11069	17256	837	912	

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Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for
Curb, Splint, Sweeney, Capped Hock,
Strained Tendons, Founder, Wind
Puffs, and all lameness from Spavin,
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Cures all skin diseases or Parasites,
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Every bottle of Caustic Balsam sold is
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per bottle. Sold by druggists, or sent by ex-
press, charges paid, with full directions for
its use. Send for descriptive circulars,
testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

furnished by this organization. The assembling of the train, which was composed of an engine, an Arms Palace car, a baggage car, two large finely-equipped audience cars, a large, handsome private or hotel car, thoroly equipped for the accommodation of the lecturers, who lived on board this train for three weeks, required no end of careful thought and consideration, as well as the selection of the speakers which made it such a howling success.

Perhaps no private car has ever accommodated at any one time more experts in their line of work than did this private coach attached to this Special Dairy Train and previously used by William Jennings Bryan in his political campaign. This is one of the heaviest and best built coaches on the Burlington line, which accommodates very comfortably the seventeen people required in running this great Dairy Special.

DEVELOPING A DAIRY HERD

It is a common saying that the bull is half the herd. Some go even farther and say the bull is three-fourths of the herd. In a sense this is true, but it is not true in the sense that the bull has a greater influence on the offspring than has the cow, provided both are equally well bred. Given a male and a female of equally strong prepotent qualities and the good qualities of one are as likely to be transmitted to the offspring as the good qualities of the other. The same is true of the undesirable qualities each animal may possess. The only sense in which the expression that the bull is half the herd is true is that the latter can re-

produce himself more often than the former. Thus a man who is ambitious to build up a highly productive herd should regard each individual cow as of as much importance in the accomplishment of his purpose as the bull that heads his herd.

The average man cannot go into the market and buy the very best cows obtainable for the reason that he hasn't the money to do so, and even if he did have, it is questionable, unless he is an experienced dairyman, whether it would pay him to do so. He must begin by purchasing the best cows he can secure for the money at his disposal. It is very essential that he should get a first-class sire. The man who undertakes to build up a productive herd can afford to pay a big price for the bull; he must figure not upon continuing to buy cows, but upon raising them. The better the sire the better will be the heifers he will get from his foundation cows, and upon these and their heifer calves will depend the value of the herd in years to come.—Farmers' Tribune.

LIP-AND-LEG ULCERATION OF SHEEP

The disease known as lip-and-leg ulceration of sheep, which has prevailed in Wyoming and other western states to such an extent as to cause the Secretary of Agriculture to place a federal quarantine on sheep from certain counties in Wyoming, is the subject of a publication just issued by the Department of Agriculture. In this publication Dr. A. D. Melvin, Chief of the Bureau of Animal Industry, describes the work of his Bureau for the suppression of this disease, and Dr. John R. Mohler, Chief of



The Simplest, Strongest And Most Convincing of Cream Separator Arguments

We cannot believe that there is a sensible man living who would put his own money into the purchase of any other than a DE LAVAL cream separator, for his own use, if he would but first avail of the opportunity open to everyone to SEE and TRY an improved DE LAVAL machine before buying any other.

It is hardly possible to say more than this. It is hardly possible to put the simple truth in plainer words. It would hardly seem possible to say it more convincingly.

The TRIAL of a DE LAVAL machine is free to every responsible man thinking of buying a cream separator. We have agents in every locality for this purpose. If you don't know the agent in your neighborhood send to us for his name and address and it will be a pleasure to give your inquiry prompt and courteous attention.

The De Laval Separator Co.

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1910 OFFER

For several years we have been searching for a magazine of national reputation with which we might combine, and in which we might have implicit faith as to its editorial policy and advertising patronage. The Farm Journal, of Philadelphia, Pa., is just such a publication. Its circulation is over 600,000; its class of advertising is beyond criticism. As a general farm paper, it has no superior in the nation. No farmer in North Dakota can afford to disregard our special offer of five years subscription to both the North Dakota Farmer and the Farm Journal, for only \$2.00. Subscribe yourself then pass the word along to your neighbor.

NORTH DAKOTA FARMER FIVE YEARS
FARM JOURNAL FIVE YEARS
BOTH FOR \$2.00

Why Bother to Renew Every Year?

Free Samples on Request. North Dakota Farmer, Lisbon, N. D.

the Pathological Division of the Bureau, describes the nature and cause of the disease and prescribes treatment.

The investigations of the Bureau of Animal Industry as well as those made by other authorities in this and other countries show that lip-and-leg ulceration is contagious and is one of the various manifestations of a disease which has been given the general designation of necrobacillosis and which affects various species of animals. The disease in sheep as found in the Western states varies all

the way from a mild sore mouth, which often heals without treatment, to a serious and virulent ulceration of the lips and legs and other parts of the body, which in aggravated cases is sometimes practically incurable. All the various forms of the disease, however, are due to the same germ, which is known as *Bacillus necrophorus*.

The Department considers it important for the welfare of the livestock industry that the disease should be suppressed, and believes that the place to suppress it is on the range. It is recommended that all diseased or recently exposed sheep, including even the so-called sore-mouth lambs, be held back, and that only those animals which are unquestionably healthy be shipped to market.

The Bureau of Animal Industry, Department of Agriculture, Washington, D. C., would like to be informed of the occurrence of lip-and-leg ulceration among sheep, and will send to any applicant free on request a copy of the publication referred to (Circular 160) prescribing in detail methods of treatment.

DAIRY BRED STEERS

As to the value of dairy bred steers for beef, I would make reply to many western inquirers with a quotation from an address before our Annual Meeting by Prof. Clinton D. Smith of the Michigan Agricultural College.

"We turn next to a consideration of the dressed carcass, and ask the steers whether, on the average, beef bred animals give a higher percentage of high-priced cuts than do Holsteins. Here we are forced to find a state of facts existing quite contrary to our preconceived ideas, and in fact, quite contrary to judgment of the markets—facts which seem to relegate that judgment to the realm of unwarranted prejudice. Let me quote one instance of an experiment conducted at the Iowa station, in the very heart of the cattle-feeding area of the United States. At this station, Shorthorn and Holstein steers were fed, and when fattened, sent to the Chicago yards for slaughter and subsequent examination. Let me quote the results of that test from Henry's 'Feeds and Feeding,' page 377, the work being reported in the Iowa Experiment Station Bulletin No. 20

Per cent of the various cuts of the dressed carcasses of the Holstein and

Shorthorn steers

	Shorthorn	Holstein
Loins.....	17.1	16.6
Ribs.....	9.9	10.2
Rounds.....	22.9	23.3
Chucks.....	21.1	21.9
Plates.....	15.4	14.2
Shanks.....	5.7	6.4
Minor Cheap Parts.....	7.9	7.4

"I submit that these figures indicate no superiority on the part of the beef breed as far as yield in percentage of high-priced cuts is concerned."

Regarding the New Stallion Law

By virtue of a law enacted by the last Legislative Assembly it becomes necessary that all parties standing or using stallions in this state for public service shall have the same registered by the newly created Stallion Registration Board at the Agricultural College. All stallions must undergo a veterinary examination by an inspector appointed by the Board. Copies of the law with instructions for applying for licenses and any other information will be furnished upon application.

Stallion owners are urged to make application at once in order that they may have their horses examined and receive their license certificates before the breeding season opens. The Board is now issuing temporary certificates which will be replaced by permanent certificates as soon as the examination is made.

Farmers, stock raisers, and stallion owners thruout the state should report the names of all stallion owners so that the Registration Board can get in touch with them. All communications and remittance of fees should be made to the Stallion Registration Board, Agricultural College, North Dakota.

Write For Factory Price Freight Prepaid—30 Days' Free Trial

Don't buy a rod of fence till you get all the facts about the quality of the world's greatest fence and our low prices direct from factory here in Elgin. We pay the freight, give you 30 days' free trial and money back if you're not satisfied—no matter where you live. Our prices are lowest ever made on highest quality



Advance Continuous Stay-Wire Fence

The best-looking—strongest-constructed—longest-lasting fence produced. Made of Solid Wire with Continuous Stay-wire. Not cut and spliced. A cut wire weakens and points stick out to injure stock. Mail postal now to get all the facts and money-saving prices.

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BREEDER OF: Black Percheron and Hambletonian Horses, Red Polled Cattle, Poland China Hogs, White P. R. Chickens, White Holland Turkeys, White Embden Geese, White Pekin Ducks and White Guinea Fowls.

GROWER OF: Minnesota No. 169, Spring Wheat, Swedish Select Oats, White Hulless and Success Beardless Barley, Turkey Red Winter Wheat, N. D. 959 Winter Rye, Northwestern Dent Corn, Early Ohio Potatoes, Timothy and Alfalfa.

Young Stock and Pure Seed, for sale. Write me for particulars.

J. A. ENGLUND, Prop.

Kenmare, North Dakota.

THE ENVILLA STOCK FARM

COGSWELL, NORTH DAKOTA

SHETLAND PONIES. All colors, ages and sizes.

REGISTERED ANGUS CATTLE. Most popular families.

HEAVY DRAFT STALLIONS AND MARES. TWO SPANISH JACKS.

WOLF AND FOX HOUNDS that will catch and kill.

PET STOCK OF ALL KINDS.

PURE BRED POULTRY.

We can please you both in Quality and Price

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COGSWELL, N. D.

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Hides, Furs and Robes

We tan Horse and Cattle Hides. Skins of all fur animals for Robes and Coats. Oak Harness and Lace Leather. Robes are our specialty. No Complaints. Skilled Labor. Twenty-five years' experience. All work guaranteed. Pay highest market price for Hides and Skins. We keep a line of Harness Leather and Robes for sale. We pay the freight on Green Hides for Robes and Leather. Send for price list and shipping tags.

Lisbon, N. D.

OTTO JENSON, Proprietor.

Poultry Department

Prof. O. W. Dynes, Agricultural College

POULTRY NOTES

This unusually early spring augurs well for the poultry crop in North Dakota the coming season. The fertility of the eggs should be higher than usual and the majority of the chicks will be *hatched at an earlier date* than has been customary.

More incubators will be used by the poultry keepers of the state than ever before. It has many advantages over the natural method of incubation but has some disadvantages. Notwithstanding the rosy claims of the manufacturers the incubator in the hands of the ordinary operator will not hatch as high a percent as old biddy herself. No one should expect a machine to do it. The artificial method, however, has a decided advantage in that larger numbers can be handled, hatching may be started much earlier and greater economy of labor is obtained.

There is no best make of incubator. Buy a standard make not a cheap machine, follow the directions of the manufacturer, use reasonable care in operating and you should attain a fair degree of success in hatching. So far as any experimental data on the relative value of hot air and hot water machines are concerned there is practically no choice. It is true that more of the higher grade machines on the market are hot air machines but many of them have moisture attachments. The proper ventilation of the room where the incubator is kept is a very important factor in successful hatching.

Use care in the selection of the eggs for hatching. Discard all unduly small or excessive large eggs. Never attempt to hatch abnormal eggs. It is waste of time. Select the average egg in color size and shape of your flock. Don't allow them to get too old before setting them under the hen or the incubator. Eggs decrease in strength of fertility with age. Keep them in a cool place previous to hatching.

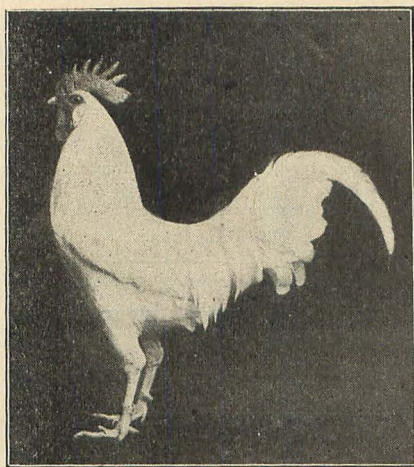
REARING AND FEEDING CHICKS

Geo. Hausmann, Hillsboro, N. D.

In dealing on this subject we shall give just a few words on the rearing, and deal more explicitly on the ways of feeding. To rear chicks successfully, the right start is to be looked for. This

starting point is really at the time of mating the fowls. Care should therefore be taken to select the most vigorous birds, and such that have never been affected with any disease. Fowls must then of course be fed properly. Feed as tho you were feeding for egg production and not as tho you were feeding for the market. Those who use incubators have somewhat the advantage over those who are compelled to use hens. It is easier to keep the vermin off from incubator chicks than off from chicks reared by hens. But as the greater part of the farmers in this state use hens for incubating, let us briefly describe a good nest.

In selecting a place for the nest, see that it is as quiet a place as possible. This is, however, not as important as the nest itself. In making your nest, take



Single Comb White Leghorn Cock-
erel; 1st at St. Paul and Fargo, 1910.
Owned by the Hausmann Poultry Farm.

a box or barrel (sawed into halves) and fill with dirt about to three inches from the top. Hollow out the dirt in the center just a trifle, so it gets a nest shape. Next take fine cut straw—do not use hay, if you have the straw—and cover the dirt just slightly. This straw is not put into the nest to make it soft, but simply, because should a hen break an egg it will moisten a few more. Now the straw will keep the eggs from getting dirty. Next sprinkle nest thoroly with insect powder. Then take a few ordinary eggs and put into it, and then you are ready for the hen.

Having just described the nest, you are now ready for the selecting of a hen. In selecting her, see that she has

a good fever, and if possible one that is gentle. This done take her by the legs and give her a thoro dusting with lice powder. By taking her thus the feathers will drop downward, giving the powder every possible chance to get into the feathers. Having given her a good dusting you are then ready to transfer her to the nest. This ought to be done at night. If she keeps her nest for a day or two, take the ordinary eggs from under her, and place them with the selected eggs. Next place a pail of water and pail of wheat before her, and let her alone as much as possible. She need only be disturbed when dusting her with powder, which ought to be done frequently, especially towards the end of the season. If you test her eggs, do so, just the same as testing eggs in an incubator. These are the only two reasons why it is necessary to disturb her. If you do not do either, let her alone the entire hatch. Let her leave her nest whenever she pleases. People that have sent for a setting of eggs are as a rule very anxious to know how many chicks are hatched, or whether they have started hatching already, and had they not been so curious, that egg would not have been broken, or that thick had not been crushed to death.

Chicks start hatching the 20th day, and as a rule are all thru the night of the 21st. They should, however, not be removed at once, or to be more accurate, for at least not until 24 hours after the hatch. They can then be removed to whatever place is intended for them. Do not, however, feed immediately. You can give them grit for a starter. The first feed we give is between 36-52 hours after the hatch, and consists of hard-boiled eggs (boiled not less than 10 minutes) and either stale or hard-baked bread. The eggs are chopped fine, shell and all and to this the bread is added. This is given to them on a plate or something to answer this purpose. Feed little and often during the first 3 days. After this time we start with Chick Food which is thrown into the litter. As soon as the chicks are a week old we start to hopper feed, using small hoppers for this purpose. We feed Chick Food until they are about 3 weeks old, at which time we start on whole grain, wheat principally. The hoppers are kept full of grain at all times, letting them eat, as much as they want to and as often also. This is practically our whole feeding system. We, of course, keep fresh water, charcoal, grit, and beef scraps before them at all times. It is necessary to let them have free range. We do not think it advisable to try hopper feeding on chicks confined to any certain space.

In conclusion let us again say that

this is not the only way that chicks may be raised successfully. For almost every writer has just a little different opinion on the subject. As this system has, however, proved a success with us, it will no doubt also be of value to some of the readers of the North Dakota Farmer. Many writers advise to feed often and little, we, however, find that the hopper feeding is just as well. We find three things necessary, free range, the right kind of food, and this food to be in a place where they can get it whenever they want it and as much as they want.

THE POULTRY YARD

Keep the old fighters apart and so remove them from temptation.

The laying hen develops a great appetite and an enormous thirst.

Owner of the coop: "Who's in there?" Rastus: "Aint nobody in here, 'ceppin' us chickens."

Lack of a constant supply of clean, pure, fresh water before the fowls means defeat in the end.

Egg-shells are largely lime. The hens can't make good shells unless you furnish plenty of lime.

A feed of finely-chopped onions, once a week, is a tonic that helps to keep broilers lively and healthy.

Keeping too many fowls in a pen with an insufficient amount of floor space is a pitfall to be avoided.

Lice which sap the life blood and undermine the flock furnish a pitfall into which far too many stumble.

Deal pretty sparingly with red pepper as a spice for poultry. It is sharp stuff. Better warm your chicks up some other way than by feeding it.

You can not feed hens that lay colored eggs so that they will lay white ones. If you want white eggs get the kind of hens that lay them.

The white-feathered broilers always have the more attractive appearance in market, as the pin-feathers do not show as they do on dark-plumaged birds.—From Farm Journal.

SUCCESS OR FAILURE

Mrs. B. F. Wilcox, Hillsdale, Wyo.

For the farmer my experience has been to stick to one breed. If rightly managed a flock of 300 laying hens will bring in not less than \$500 a year. I read of some making \$500 a year with only 6 hens and a cockerel. Now these parties receive fancy prices for their products. I am just talking about ordinary prices that the majority (farmers) obtain. Let me tell that this can't be done with scrub stock. This is where the mongrel fails and the pure bred wins. A farm full of laying hens is a great help because they are a daily cash income.



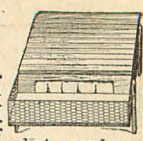
125 Egg Incubator and Brooder

Both For

\$10

Why pay more than our price? If ordered together we send both machines for \$10.00, — freight paid east of Rockies. Hot water, double walls, dead-air space between, double glass doors, copper tanks and boilers, self-regulating. Nursery underneath the egg tray. Both incubator and brooder shipped complete, with thermometers, lamps, egg testers—all ready to use when you receive them. All machines guaranteed. Incubators are finished in natural colors showing the high grade lumber used—no paint to cover inferior material. If you will compare our machines with others offered at anywhere near our price, we will feel sure of your order. Don't buy until you do this—you'll save money. It pays to investigate the "Wisconsin" before you buy. Send for the free catalog today, or send in your order and save time.

WISCONSIN INCUBATOR CO., Box 67, Racine, Wis.



Lady readers, why not get busy? Now about the best start you can make is to go right out to the hen house (don't figure on paper); sit right amongst the hens and see if you can find wherein you can make improvements for this season's work; you can make money with poultry if you love the chickens and start out with the intention that you are going to make a living at the business. If you are not afraid of work and apply yourself to the task of looking after and caring for your chickens, paying as much attention to the little things as to the large ones I am confident that any one who is willing to do the work can make money in the poultry business. Give her a chance and the little hen will do more toward raising the farm mortgage of the country than any other live stock on the farm.

Turkeys always bring a good price in the markets and it is surprising how few farmers raise them. You can make a good profit with turkeys if you take good care of them and know their peculiarities. So many do not keep turkeys because of their inclination to wander away from home, this is one of their wild characteristics that has not been thoroughly bred out of them. If turkeys are managed properly they will not have such a tendency to wander. I always feed my turkeys regularly about the barn and premises and they are not so apt to wander away except at nesting time and when insect life is most abundant. We should provide a roosting place for them. Do not make them shift for themselves. The inclination to seek proper roosting places leads them away from the home buildings.

Turkeys do not do well confined. It is best to make roosting places that are protected, either in a grove or a building that is more open. I always use an open shed. Turkeys enjoy the branches of the trees as their roosting places. They seem to require indulgence in their wild habits, and when they have been turned too widely from that environment they are prone to disease, for this reason it is a matter of economy to compel turkeys to live as near nature as possible in order to get the best results. They keep in better health when they are permitted to wander about the premises and obtain a good deal of their food themselves. Some do not keep turkeys because they think that they do much damage to their fields of grain. I am inclined to believe that the damage

they do to grain and other crops in their rambles is slightly over-estimated by those who do not own turkeys and I believe the amount of good they do in picking up bugs, worms, beetles, etc., is somewhat under-estimated.

Turkeys are the choicest fowls that can be taken to market and always bring the highest prices. Our success with turkey raising will depend very much upon the favorableness of the season for hatching and rearing.

The turkey of all fowls is possibly the one that requires the most care and attention during the first few weeks following incubation. At this stage the poulters are very delicate and susceptible to all variations of temperature. Rainy or foggy weather is fatal to them, and it is not to be wondered at that the percentage of mortality is very high with young turkeys. I use a great many calomel tablets in raising turkeys. If you are losing turkeys, hold a post-mortem and examine the organs very carefully. In nine cases out of ten you will find the liver covered with yellow spots and the lungs will also be covered. These tablets will if properly used bring relief.

While in southern Colorado and New Mexico I observed the Mexican method of feeding turkeys. They seem to be very successful. They use a great many Chili peppers in their own food also use it extensively in the food given their fowls. A Mexican lady turkey raiser said, "Turkeys got liver like people. Not got strong gizzard like chickens. No can eat much raw stuff. Make seek (sick) turkey." Mexicans feed everything all chopped fine and made

BARRED ROCKS

Choice Stock and Fair Treatment.

ROBERT B. REED

Box 2.

Amenia, N. D.

White Crested Black Polish Chickens, Eggs \$3.50 for 15, Chicks \$7.50 a pair.

J. R. POLLOCK, Casselton, N. D.

Make Your Hens Lay More Eggs

I have a method that will make your hens lay every day; it never fails. Write for it,

MRS. B. F. WILCOXON,
Hillsdale, Wyo., Dept. 5

hot with Chili pepper. Their turkeys seem very bright and thrifty. The Chili mixture should not be too strong for a person to eat. The Chili is a mild red pepper and is a valuable stimulant, a tonic for the feeble. A great many object to feeding fowls stimulants, but I would rather feed them as the Mexican lady did hers and be successful in rearing them than otherwise.

A great many people make the mistake of feeding too heavy. Feed the poults little and often. Guard against chill and dampness. Feed bread crumbs and hard boiled eggs for the first week or two and gradually work in cottage cheese peppering it a little. Feed green stuff. Be sure that the lice do not bother them. Look for lice on the head and about the wings. After they get older feed grain seeds. Turkeys are seed-eating fowls. Onion tops and dandelion leaves are excellent to mix with their feed. They are liver regulators. I know of a lady in Texas who raises hundreds of turkeys and has acres of Chives (similar to the onion) for her turkeys.

Sloppy foods of all kinds should be avoided. Of late years turkeys have been subject to a disease known as black-head which has almost ruined the turkey business in the east. I find none of this trouble in the west. In California turkeys in flocks of several thousands are being herded on the alfalfa fields like cattle. There is plenty of room for many more turkeys and there is so much profit in them and so few people raising them. I saw turkeys sell last Thanksgiving at forty and forty-five cents per pound and every year they are shipped in from Kansas and Nebraska by the carload. The dry climate here is well adapted for the raising of turkeys. Poultry is yet in its infancy in the west.

HATCHING CHICKS WITH INCUBATORS

By Robert H. Essex, Buffalo, N. Y.

Farmers are conservative in taking up new ideas; conservative in buying new things. They have to be. Nevertheless, when they see prospective profits oozing thru the safety valve of a new or improved implement, they feel that they must have it, even if they have to give a note for it, or encumber their farm with a new mortgage.

That's Farm Progress, which interpreted signifies Prosperity On the Farm.

No farm can be complete, no farmer can be superlatively prosperous where progress in labor-saving equipment is ignored. And this applies as well to incubators as to any other implement.

Where not many years ago nine out of nine farms had never heard of an incubator, today the word is passing from farm to farm that the profits are larger,

the work less onerous, the hatches more sure, and the hens are taking fewer holidays—laying more eggs; not all on account of the incubator, and secondarily on account of the large amount of book knowledge distributed with it. The farmer's wife is doing her share in the profit-making. She always has done it; but now she is gaining recognition as a partner in the business. This is having, it has had, its effect, and the result is, farmers are now posted on poultry profits. They will continue to be posted; and those who have been operating incubators will go back to hen-incubation only when they return to the old custom of treading out the grain with oxen—only when they are prepared to put the cream separator on the shelf.

Poultrymen who are in the business commercially—whose living depends upon the profits, would as soon think of threshing the grain with an old-time flail, as they would of hatching chicks or ducklings with hens or ducks. The thought would be absurd. Without the incubator they would have to go out of business.

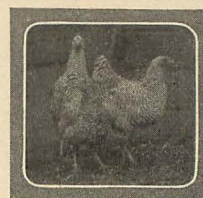
Before the introduction of incubators large commercial poultry plants were an impossibility. Mr. James Rankin gets the credit of putting the first lot of ducklings and broilers on the market in considerable numbers, and making it pay. But James Rankin's only salvation was the invention of an incubator. Without its aid he found he could not make a business of raising poultry for market at a profit; so he made one.

That was many years ago. The incubator of today has improved as time has rolled on, and—but no more need be said regarding the future of the incubator (the built-to-hatch incubator) in the poultry business. Hens will continue to be used where only a dozen or two chickens are intended to be kept for home use; but on the farm where chickens can be fed cheaply and are raised by fifties or hundreds, the time-saving incubator, the economic method will be—is—adopted.

The farmer and his wife sometimes face a disconcerting situation when they have finally decided that they wish to get more of the poultry profits by buying an incubator. The question arises, "Which incubator shall I buy?"

I may not advise them here except generally.

There are a number of good incubators on the market; and there are a number of built-to-sell machines that the farmer cannot afford to experiment with; but the present day farmer has his eye-teeth cut and knows he cannot get something for nothing. To be successful in raising poultry one must use business-like methods with business-like equipment.



Plymouth Rock Poultry. Line bred from nation's greatest prize winners. Eggs at \$2.00 per setting. A few choice cockerels for sale at \$5.00 each.

H. C. Hart, Bottineau, N. Dak.

Baby Chicks. 8 Cents Each. Shipped anywhere. Safe arrival guaranteed. Eggs for Hatching \$4.00 per 100. Culver Poultry Farm, 1020 Reed St., Benson, Nebr

Silver Wyandotte Eggs, from Fargo 1, 2 Ribbon birds, \$3.00 per 13. From 300 hen flock, \$3.50 per 100 eggs. Baby chicks from flock, 10 cents each.

WYANDOTTE FARM

Woods, N. Dak.

BIRCH-LAWN POULTRY FARM

Alexandria, Minn.

R. R.

S. C. W., R. C. W., S. C. B. Leghorns from good laying strains. Eggs, \$1 per 15. Toulouse Geese eggs, 30 cents each. Also Duroc Jersey Swine. Male Fowl for sale, all range stock.

Partridge Wyandottes

"Hardi-breds," A breed

which combines good laying quality with the finest table quality, to say nothing of unexcelled beauty.

My birds are from the Hadaway flock direct and among them is a son of "Boston". They are blocky, well marked and of trap-nested ancestry.

Some stock for sale at reasonable prices. Eggs: \$3 per 15 or \$5 per 30. Cash with order.

GEO. J. CHILDS, Casselton, N. D.

HAUSMANN POULTRY FARM

Breeders of W. Wyandottes and S. C. W. Leghorns Hillsboro, - North Dakota

EGGS for hatching from 26 leading varieties. Bronze and W. Holland Turkeys. Pekin ducks and chickens. Catalog free. **L. GULDEN, OSAKIS, MINN.**

MAMMOTH BRONZE TURKEYS

I have a few very fine toms for sale yet.

JOHN F. SIMON, Oberon, N. D.

MAMMOTH BRONZE TURKEYS

from winning stock
EDGEWOOD FARM, R. F. D. 2, Fargo, N. D.

S. C. W. LEGHORNS

Prize winners' stock for sale. Eggs a specialty. **GEO. A. FOWLER,**

Box 486, Casselton, N. D.

Rose Comb Black Minorcas

Eggs for sale, \$2 for 15 eggs.

C. WYSH, CASSELTON, N. D.

Thirty Prizes At State Show

White Barred and Buffed Rocks. First on Pens of these Farmers' Favorites. White and Buff Wyandottes Eggs from Price Pens \$2.00 per 13.

H. P. COOPER, Casselton.

IF INTERESTED IN

BEEES, POULTRY OR DAIRY

You should read **MODERN FARMER** Eldon, Mo.

10 Months For Only 10 Cents

GRAND 5-YEAR OFFER, PAGE 20

OBSERVATIONS OF A COCKEREL

It's a wise chicken that knows his own incubator.

Chickens come home to roost—but they're much more apt to if you have kept them fenced in all day.

Some birds go to the poultry shows and win big money—but I notice they sidle up to the trough for food with the rest of us.

The only legitimate excuse a hen has for not laying an egg is that the family had her for supper the night before.

I have noticed that the hen that cackles loudest is the rooster, and he never laid an egg in his life.

Some chickens scratch worms, and others hold meetings to protest against the hardness of the ground where they have to dig.

You never know how valuable you are until you see the lies the old man wrote to the poultry paper about your egg record.

Human beings are queer—the more they pet a baby chick and fuss over it, the more apt they are to be inquiring pretty soon whether there aren't a few spring fries ready for circulation.

An incubator is a wonderful invention, but it can't swear when somebody comes by to see how the eggs are getting on, like a hen does.

When a hen is worth \$10,000, the owner is usually counting on the pleasure of boasting about her as worth about \$9,000 of it.

Lots of farmers spend their time reading the United States bulletins on poultry raising when they could be better cleaning out the nests.

When a hen flies the length of the yard to perch on the boss's shoulder and cluck in his ear, she is probably sucking eggs right along, if the truth were known.

All is not gold that looks yellow when you soak it at the side of the barn.

People preach charity and love to a small boy and then go out and kill his pet chicken for the minister's Sunday night supper.

Let the pullets run around and have a good time—they'll be better hens afterward for remembering it.

Some people put their money in fake gold mines, and others go into the poultry business without experience and expect to make a living selling eggs on the market.

Fighting may knock points off a rooster's show record, but it's heaps of fun—and who wants to win in the shows, anyhow?

Many a poultry keeper spends hours fixing splints and bandages for crippled chicks when he might better have been turning the eggs four times a day and producing healthy birds.—Farm Journal.



Here Is Something New From Kalamazoo

Prove for yourself in your own home, that the Kalamazoo is the most perfect—most economical—most satisfactory range for you to use—Your money back if it's not.

Send for Catalog No. 485 with special terms and compare Kalamazoo prices with others

Cash Or Time Payments

We want every housewife to know the comfort and convenience of a Kalamazoo in her home. You can buy on **easy time payments** or pay cash if you like. Either way—you save \$10 to \$20 on any stove in the catalog. We make it easy for responsible people to own the best stove or range in the world.

We Pay the Freight

Kalamazoo Stove Co.
Kalamazoo, Mich.

"A Kalamazoo Direct to You"

FROM THE NATION'S CAPITOL

By GUY E. MITCHELL

BUSY TIMES IN WASHINGTON

Washington is seething with masses of farm lore these days. Secretary Wilson and others are holding forth on the cost of living. The soil, he says, is not made to grow enough pounds of crops per acre and should be tickled more intelligently, manure should be spread upon the fields as soon as it is made and there is too much profit to the middleman. Washington, basking in the sunshine of a beneficent, and all-wise Congress should be a model city with respect to cost of living; but its increase in food-costs is the greatest of all cities. Let us make of it a shining example, says "Uncle Jim." Doctor Wiley appears before a food-cost investigating Committee of Congress and shows that "fresh laid eggs" purchased at the big Center Market by one of his trusted young men, are, according to the salt-water and candle methods of test, over ten months old. The Congressmen comprehend. The way to stamp out the rat plague, which spreads typhoid fever is to tie the rat down securely to the barn floor and then get into a pair of hobnail boots with high tops. Postal savings banks matters are stewing in the Senate with good apparent prospects—promises at least—of enactment this year. Various resolutions have been introduced asking why rump meat should be worth as much per pound as gold nuggets and the Ballinger-Pinchot congressional inquiry is on. Actual conservation of natural resources continues from time to time wherever any valuable public coal, phosphate, oil or other mineral land, or water-power sites are determined to be such after adequate technical investigation, and Forestry Bureau work is pushing ahead under the direction of the new forester, Mr. Graves. The indications are that there will be no tariff war with Germany by reason of the withdrawal of the demand that American meats shall receive better consideration in future by the Kaiser; Cook has not been discovered and Professor Willis Moore chief of the Weather Bureau, has retired

from the presidency of the National Geographical Society after five years of long and faithful service.

POSTAL SAVINGS IN THE SENATE

The subcommittee of the Senate Committee on Postoffices and Post Roads, has under instructions of the main committee, drawn up a new bill on postal savings banks. The new bill contains a provision that the postal savings fund shall be deposited in local banks. This provision is expected to prevent the postal savings money from flowing into the big Eastern banks and is a victory for Western Senators.

It is probable that the fact that the new bill as it comes from the committee contains a provision that the money shall be deposited in local banks will prevent the big fight over the measure in the Senate which was expected.

The new bill provides that the money collected by the postal savings banks shall be deposited in local banks ratably in proportion to the capital and surplus. Deposits are to be made in State banks as well as national banks and the banks are to give either indemnity bonds or furnish collateral security for the deposits.

CORK OAK CULTIVATION

Cork oak, which grows to a large extent in Spain, is to be tried in the national forests here. Two thousand one-year seedlings now in the nursery at Chice, California, will be used for experimental planting by the forest service. Some will be placed in the Santa Barbara national forest and others will be planted in the Monterey national forest in southern California. In addition to planting seedlings, cork oak acorns will be obtained from Spain for experimental purposes.

LOOSE COINS WILL NOT BE ACCEPTED

Commencing February fifteenth rural letter carriers will not be required to col-

lect loose coins from rural mail boxes. In view of the extent to which the practice of placing loose coins in boxes by rural patrons has grown and the delay in the delivery and collection of mail, and the hardship imposed on rural carriers incident thereto, especially during cold or stormy weather, the Post Office Department has promulgated the above regulation.

In order to aid the carrier patrons should enclose coins in an envelope, wrap them securely in a piece of paper, or deposit them in a coin-holding receptacle, so they can be easily and quickly taken from boxes, and when thus prepared carriers will be required to take up such coins and, where accompanied by mail for dispatch, attach the requisite stamps.

There is a man who operates a serpent farm in Texas for the hides which are tanned into belts, purses, etc. This is not only just naturally a skin game but it is one of the snakiest, scaliest occupations they have in Texas.

FARM LOSSES A MENACE TO CITY LIFE

Secretary Wilson at a meeting this week of the Manufacturers' Club of Philadelphia, asserted that the fundamental difficulty confronting the people who are forced to pay high prices for food stuffs, is that the people are leaving the farms to such an extent that there are not enough remaining to produce the food needed by the increasing numbers of consumers. The young people are being lured to the cities, factories and mines, and consequently the tillage of the soil is neglected.

Secretary Wilson's statement indicates that the city drift is a menace from another point of view. It not only

crowds the urban centers and thereby increases the number of people dependent upon the rural sections for physical maintenance, but it diminishes the sources of supply. Every able-bodied young man who moves from the farm to the city is a double loss in the economic situation. He becomes a consumer increased of a producer.

Rural conditions are infinitely more attractive today than they were half or a quarter of a century ago. The average farmer, especially in the eastern part of the country, is far better off than the average city dweller in point of sufficiency of supplies, while he is almost as well equipped with conveniences. The trolley car, the telephone and the rural free delivery have brought him into close touch with the cities and widened his sphere of industrial and intellectual activity. He is within the current of the world's thought and has a far broader range of resources than his father had.

The problem of inducing the farm boy to remain on the farm is no longer a problem for the farmer. The city dweller is menaced with a decreasing supply of food and it is his business to adopt some method whereby country life will be so attractive as to keep the boys on the homestead and also to induce some of the city dwellers to migrate farmward.

Secretary Wilson in his address appealed directly to the Manufacturers' Club to make a close study of this matter and to assume the initiative to correct the tendency of city movement which is imposing a double burden upon society in general.

IMPROVED GRAPE CRATE

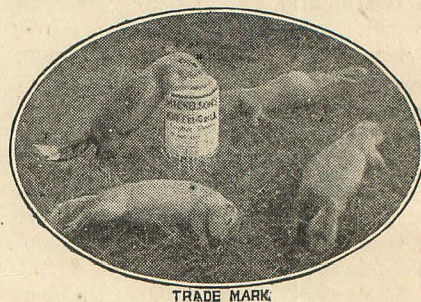
An improved grape crate or barrel which may also be used for shipping other fruits, is described by the Bureau of Manufacturers in a recent report

from Almeria, Spain. The barrel is cylindrical and has four separate compartments or flat circular boxes—shaped like cheese boxes—each of which holds about 12 pounds of fruit. This insures good ventilation, and at the same time presents a cheap fancy package, what up-to-date growers are after. The entire barrel can be made by machinery and there is practically no waste of wood. Any kind of wood, it is stated, may be used.

REPLANNING A FARM FOR PROFIT

Just because his father's father or grandfather farmed in a certain manner, the husbandman of a community is "set" in his ways and looks askance at some innovation which will bring him

MICKELSON'S KILL-EM-QUICK



GOPHER POISON

Guaranteed to kill gophers, squirrels, field mice, ground hogs, rats, mice, wolves, coyotes, rabbits and badgers or the purchase price refunded. 75c size package contains 2,000 poisonous doses and the \$1.25 size 4,000, for the extermination of the gopher and squirrel pest.

Prices on Quantity Orders

No. Pkgs.	75c size	\$1.25 size
1 package	.75 each	\$1.25 each
12	.73	1.20
25	.70	1.15
100	.67	1.10
200	.65	1.07
300	.63	1.04
500	.60	1.00

"KILL-EM-QUICK" is sold and can be secured at above prices from all druggists and drug dealers. "Mickelson's Kill-Em-Quick Gopher Poison" has a peculiar odor which attracts the pests and being very pleasing to the taste, they eat the prepared grain in preference to any other food.

This patent preparation is in powder form and when mixed with moist grain it adheres to and forms a coating on the outside of the kernels. "Kill-Em-Quick" thus comes in immediate contact with the tissues of the stomach and the result from its action is almost instantaneous.

FARMERS' UNION, No. 28, North Powder, Ore., writes: Albert Olson (a member) used "KILL-EM-QUICK" last year with great success. Ship us 52 large size Gopher Poison by fast freight. Used "Strychnine" with poor results and we are pleased to find something better.

Try "Kill-Em-Quick" at our risk (cash refund guarantee printed on every package) and rid your fields of these grain destroyers. Place your order for such quantity as desired, or have your neighbors purchase their supplies of "Kill-Em-Quick" with you from your druggist or drug dealer. In ordering together you all secure the benefit of the quantity discount on the amount each desires to purchase. If no "Kill-Em-Quick" in stock, accept no other poison, but have it ordered for you. In case it is impossible to secure "Kill-Em-Quick" as stated, send us your order (giving druggist's or drug dealer's name) and remit for such quantity as you desire to purchase; upon receipt of which the shipment will receive prompt attention.

"KILL-EM-QUICK" ALWAYS KILLS

Complete information, folders, testimonials, etc., furnished on request.

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for catalog

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Northern Minnesota and North Dakota Grown

SEED CORN---CLOVER---GRASS SEED AND SEED GRAIN

N. J. OLSEN CO.,

Moorehead, Minn.

more profit. Habit frequently continues a type of farming in a community long after that type has become unprofitable. Even after this condition is discovered by the farmer, changes in the farm system are often deferred because of lack of knowledge of how to replan the farm; because of lack of funds in carrying out new plans; because new fences, buildings or equipment are called for in the new plan, and because a change frequently requires a readjustment of many of the usual ways of thinking and doing.

In replanning the farm, help may be obtained from visits to successful farms, from farm literature, agricultural papers, state experiment stations, the agricultural colleges, the United States Department of Agriculture, and from agricultural experts. The income from the same farm can often be doubled or trebled without increased expense by adopting a system of farming suited to the land, the locality, and the owner.

The farm can be as successfully planned as other businesses are, provided the plans are made to cover average conditions for a period of years. Profitable farming results from good farm plans comprehending every feature of the farm carefully co-ordinated and effectually carried out.

In a nut shell, a good farm plan provides:

First: A reasonable reward for the capital and labor invested;

Second: The maintenance or increase of soil fertility, and

Third: It must be within the comprehension and ability of the owner to carry out.

The Department of Agriculture recently issued a bulletin on the subject of replanning a farm for profit (Farmers' Bulletin 370) which suggests six different farming systems for a run-down 80-acre farm in central Illinois, with the estimated expenditures and returns of each type. The total income of the whole farm in 1908, estimating crops at average prices, was less than \$450 per year, whereas the estimated gross incomes from the different types of farming proposed, after deducting the cost of fertilizers or feeding stuffs, range from \$862 to \$2,334 per year.

Is not the game worth the candle?

EFFECT OF MANURE THROUGH ROTATION OF CROPS

In experiments conducted in Scotland, barnyard manure was considerably more valuable than commercial fertilizers for the light soil on which experiments were made to determine the effect of the manure during crop rotation. The manure produced practically as heavy crops of roots as manure and

commercial fertilizer used together but the combination considerably improved the three following crops. The rotation included cereal, root, and hay crops.

Double dressing of manure, amounting to 20 tons in four years, increased the crops without increasing the net gains. It was found that commercial fertilizers, especially superphosphate, must be applied in excess. When potash was excluded from the application, commercial fertilizers gave but small gains and the good results secured where manure alone was used show that a moderate dressing largely made up the potash deficiency of the light land. Sulphate of ammonia had singularly exhausting effects on succeeding crops.

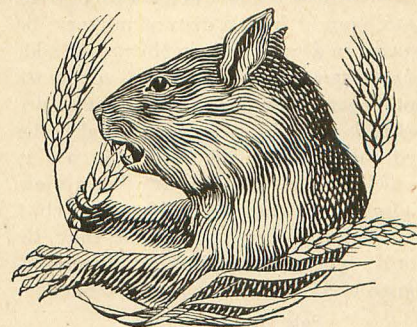
SECURING A HARDY TYPE OF PEACH

This is a line of work which the Department of Agriculture is following closely, and during last year a dozen hardy varieties of seedling peaches, bearing fruit of good quality and appearance, have been segregated. These varieties represent a season of ripening from July 1 to November 1. They are uniformly of the Chinese Cling group, and from them will probably come a hardy race of peach stock that will extend the area of successful peach culture several hundred miles north of the present limit. It will also extend the season of ripening fully 30 days.

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Devils Lake, N. D.

When writing advertisers please mention the North Dakota Farmer.

School and Home

LESSONS IN ELEMENTARY AGRICULTURE By G. W. Randlett, Director of College Extension

Tree Planting on the School Grounds

The country school grounds of North Dakota are bleak and barren, uninteresting and uninviting. They tend to repel rather than attract, to turn the mind of the country child to the brighter phases of town and city life. It is quite possible to ornament these grounds making them beautiful and homelike. A few clusters of trees and shrubs will work wonders. A country teacher can

do no more effective or lasting work in a community than to carry out in a correct manner some phase of tree culture. In no other way can she expect a greater or more far reaching influence.

A few simple and practical directions are given below in the hope that many teachers will take up this very important work and succeed in arousing interest therein.

Preparation of the Soil

One of the most important phases of tree culture is proper soil preparation. It is next to impossible for a tree to grow, even to live, under the conditions

so often given it in North Dakota. If a tree with short cut and partially dried roots, bought from a distant nursery, be planted in a small hole in the native sod, with a few course clods to cover its roots, there is but one thing for it to do, and that is to die. If the ground to be used for the planting is prairie sod it should be broken this year with a view to planting next spring. If ground that has been regularly plowed, it may be thoroly worked and thus put in condition to receive the tree roots at once.

Selection of Trees

This is another important matter. One hardy, inexpensive tree of some native variety that will live and become serviceable and beautiful is far better than a dozen of the imported costly kind, the very planting of which invites

taken up carefully, with a large amount of fibrous roots intact, be planted in this way the tree will surely grow.

Where to Plant

If several specimens are obtained, plant them in groups or clusters well to the back and sides of the grounds. Do not plant them in places where they will be in danger of being broken by teams. Do not set them in a straight row along the front of the grounds. Avoid single rows in all cases.

Subsequent Cultivation

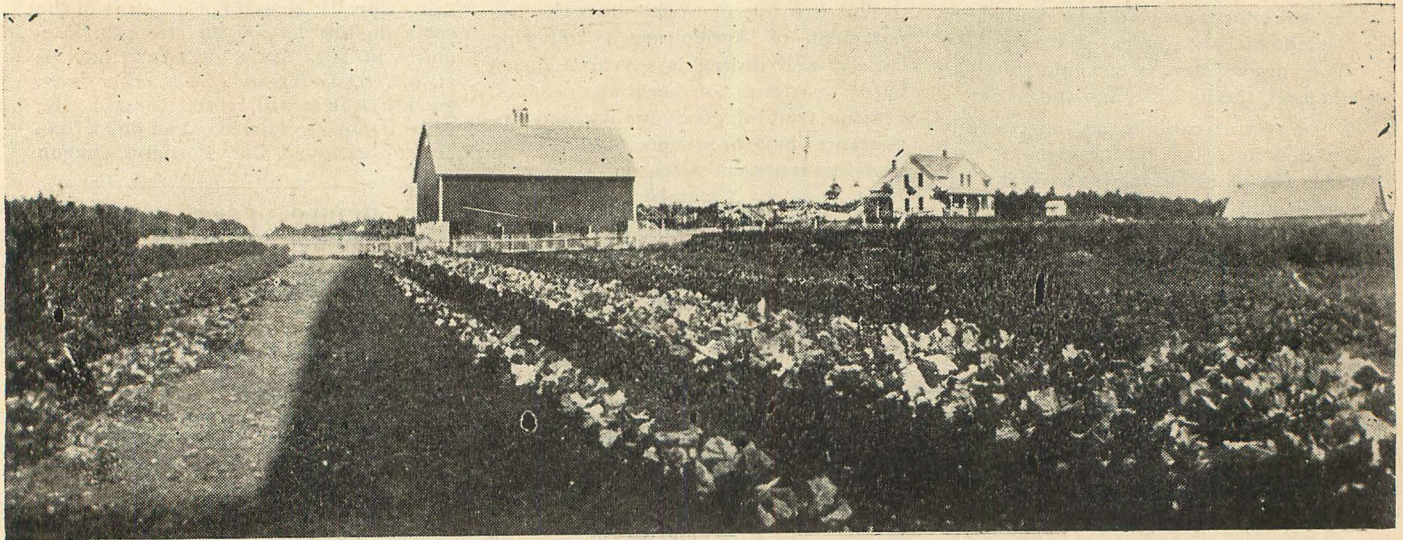
Thoro cultivation is necessary for at least two summers afterward. A loose, well cultivated surface soil prevents evaporation and hence conserves the moisture necessary for the growth of the tree. If the soil is left uncultivated it becomes hard and cracked and con-

season. It is the work of Nature thru several decades, but Nature cannot do it in this state unassisted. Work of this character begun now will not only bring splendid results in the future but will bring gratifying results immediately and be the source of much interest and satisfaction.

HOW TO MAKE A FIRELESS COOKER

By Miss Jessie M. Hoover, in A. C. College Extension

In response to the many requests for information regarding fireless cookers I shall attempt a brief description of how a cooker can be made at home by an amateur.



A Farmstead in McLean County near Turtle Lake

failure. There is no better variety for North Dakota school yards than the box-elder. If a native green ash or elm can be secured, plant it. Wild plum and choke cherry trees from the river banks are hardy and produce blossoms during the early summer.

How to get the Trees

If native trees from the banks of the local stream or lake are available use them by all means. If there are no such trees and shrubs within driving distance then buy a few, a few only, from a nearby nursery. They will cost but little and the ingenious teacher and live school will find a means of raising the necessary money.

Method of Planting

The holes made to receive the roots should be so large that the roots may be well spread out and not cramped. Fine moist soil should then be sprinkled over the fibrous roots and thoroly packed. The last covering of soil should be left loose. If the soil has been properly prepared, and a healthy tree, previously

sequently dries out to adepth below the tree roots, and again there is but one sensible thing for the tree to do and that is to die.

Cooperation Necessary

The successful planting and culture of trees on the school grounds will need the combined energies and interests of several people. If the ground is prairie sod, the teacher who will usually be the director of this work, should strive to enlist the services of the director or some other enterprising patron to the extent of breaking the sod early in the summer and backsetting the same in the fall, preparatory to planting the following spring, either by herself or by her successor. If the ground is in such condition that trees may be planted then, she should do so by all means. If they have been planted previously, then the pleasant task of cultivating and pruning devolves upon her and her school.

Not the Work of a Day or a Season

Beautiful old trees of strength and character cannot be produced in a single

First select a pail or kettle of the right size to suit your needs. The lid must fit tightly in order to retain the steam. A granite pail is the best as it does not rust nor impart unpleasant flavors to the food. The cover should be of granite or aluminum.

Selecting the Receptacle

Measure your pail or kettle with lid in place and add eight inches to the diameter and eight inches to the height. This, you see, will be the same as adding four inches all the way around the pail. Now select a box or cask or barrel or trunk or candy pail which will fulfill the estimated dimensions. This receptacle should be reasonable free from cracks and knot holes and should have a tight fitting cover. If a box is used the lid may be hinged on and a window lock can be used to hold it in place. Rollers may be placed under the box making it more convenient.

The Principle

The principle involved in successful fireless cooking is that of insulation or

non-conduction of heat. The materials used as insulators vary considerably in price as well as effectiveness. A vacuum is best, live goose feathers rank next and following these insulators are sheep wool, paper pulp, cattail down from a coarse grass found growing in swampy places, ground cork, shredded newspapers, sawdust, a dead air space, cotton, hay, straw, excelsior, etc. I shall describe a cooker in which wool forms the insulation.

Over the bottom of the box spread the wool to a depth of four inches. Lay a stiff piece of paper or cardboard over this. Now pin a strip of cardboard around the pail, just the height of the pail, and just loose enough to allow it to be lifted in and out easily. Set the pail surrounded by this collar in the box on top of the paper and the four inches of wool. This leaves a space of four inches all the way around the pail. Now pack this four-inch space in with wool until it comes up even with the top of the pail and cardboard collar. Remove the pail. This leaves the cardboard collar, which forms a permanent nest for the pail. A piece of cloth can be laid over the top of this and tacked to the sides of the box. Cut a hole in the center of the cloth folding in edges and sew to the cardboard. Or the cloth may be glued to the cardboard if desired. The cloth affords protection to the wool and it also presents a more pleasing appearance. There is still a space four inches in depth to be filled above the kettle. Make a cushion the size and shape of your box. It must be four inches thick. Fill the cushion with the chosen insulating material and place it on top of the other insulation next the cover. This done the cooker is ready for use.

A fireless baker or insulated oven may be made in the same way. Use a cheap portable gasoline oven and select a box which will allow a four-inch space for insulation all around the oven. Pack the space with wool. The box should be opened at the side instead of top. The cushion can be hung in the four-inch space between the oven door and the box door. A window lock forms a good fastening for this door.

In order to use a fireless baker one must have something to use as heaters. Soapstone foot warmers or griddles may be used. Stove lids are also good. These heaters should be thoroly heated until they are sizzling hot like a flatiron for ironing. One is placed on the lower grate and one on the upper grate and the food to be baked is placed between the stones. This imparts a delicate brown and is sure to bring the best of results. If your oven is well constructed it will retain baking temperature for many hours. The food need not be heated before being placed in the oven.

In using the cooker the food is first

carefully heated thru and then placed in the nest of the cooker and covered with the cushion. The lid is closed immediately. Here it is thoroly cooked. About twice the time is required to cook in this way as on the stove. If the cooker is opened before the food is done, the heat is lost and food must be reheated. A little practice will be required to determine to a nicety the time required for cooking.

The advantages in fireless cookery: It saves fuel, there is a great difference in the fuel consumed in fifteen or twenty minutes and in that consumed in half a day.

It saves labor—Once your food is in the cooker you need give no further attention to it until you wish to serve it.

It makes a uniform heat—Food doesn't burn in one part while it is raw in another.

It saves food—By not burning the food, also the food does not stick to the kettle.

It saves heat in the house on a summer's day.

It cooks while you sleep or go visiting. The baker is especially good for roasting meat, baking bread, beans, etc.

CONSOLIDATION OF RURAL SCHOOLS

Guy E. Mitchell, Washington, D. C.

The consolidation of rural schools is only another form of co-operative organization, which is becoming increasingly a characteristic of American life, for the purpose of giving the common people the advantages of better economic, social, religious and educa-



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tional means of control and uplift. In the non-agricultural pursuits co-operative organization has made possible the production of better goods at lower cost; and a more effective control of energy in the field of labor. Since the American farmers produce not only our food and clothing, but the vitalizing surplus of people for our cities, educational inventions which tend to bring country life education to higher standards of efficiency should be studied carefully. The country at large should be intensely interested in the problem of improving the economic efficiency of its citizens.

PRICE OF BEEF TO STAY HIGH

Little hope is held out for the consumer, according to the testimony of Samuel H. Cowan, attorney for the American National Livestock Association of Texas, before the Senate committee investigating cost of living.

"There is no use for the people of the United States to think of ever getting any more cheap beef," he said. He contended that the profits of cattle raisers now are much less than a few

years ago, despite higher prices at which live cattle are sold to packers. He presented figures to show that the land upon which the cattle are raised was worth \$1.50 to \$2 per acre in 1904 and \$7 per acre at present.

The attractions of the cities have made farm hands scarce, said the witness. He told the committee that the cities in his section of Texas have doubled in population in the last ten years, while the country population has not increased at all.

Mr. Cowan maintained that the cattle-raising business has so little attractions in the way of profits that lands used in the past for cattle raising are being rapidly sold for other uses. Some of the big cattle ranges of Texas, he said, are being cut up into town lots or are being used for agricultural purposes. Onions and cotton, the witness declared, offer good profits to the producers.

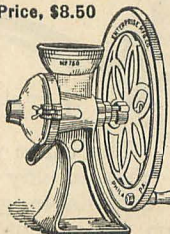
The lease of the land in Oklahoma, where the cattle are fattened for market, cost about 10 cents an acre in 1904, and costs 75 cents to \$1 per acre now. In 1904, he said, cowboys were paid \$25 to \$30 per month; now they get from \$35 to \$60 per month. The price of a horse to be used on the cattle ranges has increased from \$20 in 1904 to \$75 now. And prices of feed for horses and cattle, as well as the men, has increased proportionately.

GROWING "DUTCH" BULBS AT HOME

The Department of Agriculture having determined that the propagation of Dutch bulbs is a possibility in the Puget Sound region, it was decided last year to undertake this work on a more definite basis. In order to do this it was deemed best, to have a suitable tract of land exclusively under the control of the department. Such a tract, consisting of 10 acres, was located near Bellingham, Washington, and the people of that city, thru the Chamber of Commerce, secured a lease of this tract for a period of ten years and tendered the same to the department. The offer was accepted with the understanding that the tract was to be put in proper shape for the work contemplated.

The Department placed an order in Holland for bulbs with which to begin the work of propagating and testing. The plan, under this work, is to secure bulbs for Congressional distribution, to show whether or not Dutch bulbs can be grown profitably on a commercial scale in the Puget Sound region, and to secure considerable data, which is now lacking, as to methods of cultivating, manuring, best soil conditions for each class of bulbs, etc. In about five years it is probable that a sufficient number of bulbs from this work will have been secured to begin making a distribution thru the usual channels.

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Price, \$8.50



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One of the indications of the high regard in which our shares are held by those who possess them, is the interest they show by constantly bringing them to the attention of their neighbors and friends.

By placing our shares as we do among individual investors, we are building up an extensive co-operative organization, each member of which has the opportunity and will be interested in adding to the profits of the Company, because by so doing he adds to his personal profits.

Such offers rarely, if ever, reach private investors, and we advise you to send your subscription for shares at once.

Purchasers of the stock may send one-tenth of the total subscription with the order and the balance in nine monthly payments.

The Prince Rupert Real Estate Investment Co., Ltd.,
Prince Rupert, B. C.

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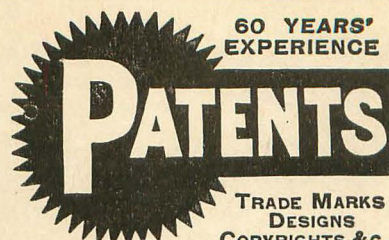
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1 Pair Buttonhole Scissors

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